THE DOCTRINE of ACIDS IN THE Cure of DISEASES Farther Aſſerted:

Being an *Anſwer* to ſome *Objections* raiſed againſt it by Dr. F. TUTHILL of *Dorcheſter* in *Dorſetſhire*.

In which are contained ſome things relating to the *Hiſtory* of *Blood*: As alſo an *Attempt* to prove what *Life* is, and that it is principally ſupported by an *Acid* and *Sulphur*.

To which is added an exact *Account* of the *Caſe* of *Edmund Turner* Eſq; deceaſed; as alſo the *Caſe* of another *Gentleman* now living, exactly parallel to Mr. *Turner*'s.

By JOHN COLBATCH, *a Member of the College of Phyſicians*, London.

LONDON,

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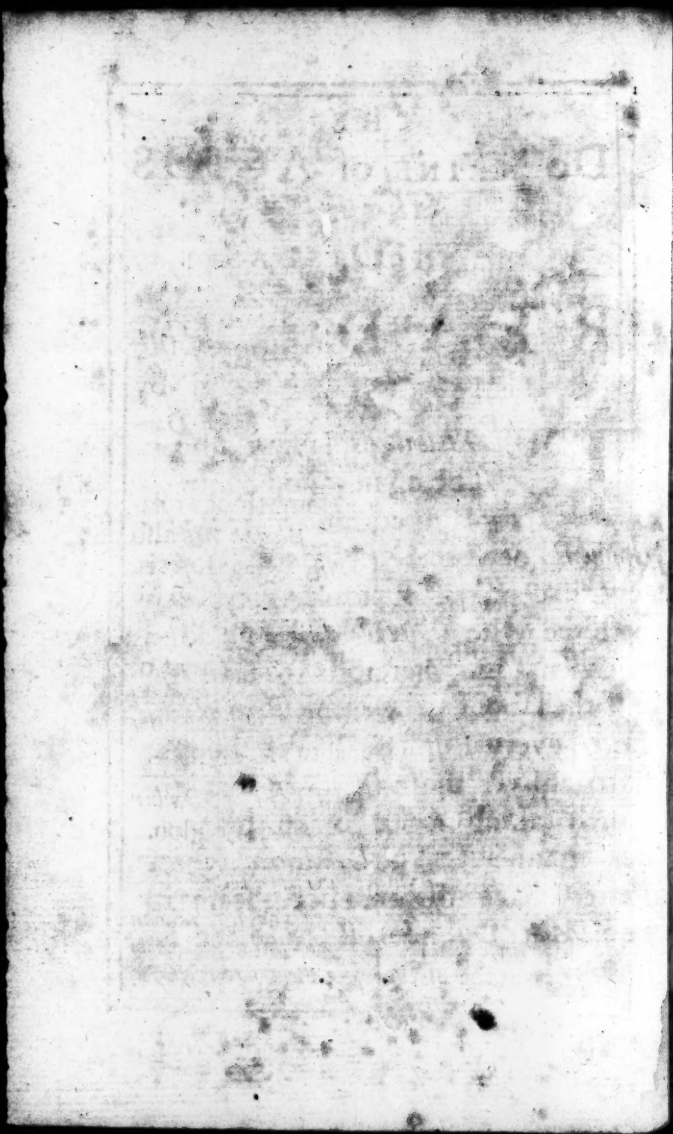

TO THE

READER.

THE *Hypotheſis* I have advanced being new and contrary to the common received *Opinions* of other *Phyſicians*, a very few excepted, I am every day peſtered with *Objections* of one kind or other; and therefore to ſave my ſelf the labour of writing *Pacquets* of *Letters* every *Poſt-day*, I have thought fit to anſwer thoſe *Objections* that are worth taking notice of in this publick manner. The *Gentleman* whoſe Letter I have anſwered here, ſeems to be a *Man* of wonderful *Candor* and *In-*

genuity; and were it but for the ſatisfaction of him only, I ſhould not think my time miſpent: but however, hoping to do ſervice to the *Publick* by it, I have ſuffered theſe *Papers* to come abroad, as they are. I confeſs they are not ſufficiently poliſhed for publick *View*; and at the ſame time the pains I have been at in compoſing of them is too great to have them confined to the private uſe of one perſon: and for the deficiences, I ſhall endeavour to ſupply them in ſome other *Papers* that ſhall be got ready for the *Preſs* as ſoon as poſſibly I can.

He that would paſs the *Courſe* of his *Life* without *Envy*, muſt believe what is generally believed, and ſpeak as others do; and whoever takes upon him to do otherwiſe, let the *Succeſs* of his *Undertaking* be what it will, the *Reward* he is like to

to meet with from the generality of *Mankind*, is to be reproach'd. The enquiry after *Truth* is an *Undertaking* in which little *Assistance* is to be hoped; and there are so many Guards on all the ways that lead to it, that it's a very hard task to break through. 'Tis an antient *Proverb*, that, *Non omnibus licet adire Corinthum.* Whoever intends to overcome so many *Difficulties*, cannot hope to succeed, but by his *Diligence*, *Eagerness*, and *Earnestness*; which *Methods* I have pursued as much as the hurry of my *Affairs* would permit me.

When I consider the great Number and the Potency of my *Adversaries*, I am sometimes under the greatest Discouragements imaginable; and wish that I had either gone on in the common *Road*, or else that I had never appeared in publick,

but have kept my own *Notions* within the Confines of my own *Breaſt*, and ſo I might have jogged on without Moleſtation. But when I call to my remembrance the *Guilt* which that *Perſon* lay under, who made no Improvement of his one *Talent*, but hid it in a *Napkin*, it diſpels the former Conſiderations, and withal animates me to go on in the Work I have begun; which altho it may create me many *Enemies*, *Truth* at its firſt appearance never wanting Oppoſers, yet the thoughts of having endeavoured to ſerve my *Generation* to the utmoſt of my Power, gives me that Peace and Satisfaction of *Mind*, that all the united Force of my *Enemies* is not able to deprive me of.

I never yet pretended to make People Immortal, my Endeavours having all terminated in this, *viz.*

to

to be ſerviceable to my fellow *Creatures* in diſtreſs as much as I was able. The wiſe *Man* ſaith, *That no Man hath Power in the Day of Death, and that there is no diſcharge in that War*: The Iſſues of Life and *Death* being only in the hands of the *Almighty*. But I am that unfortunate *Man*, that if I have any *Patient* die once in three or four *Months*, tho perhaps I ſcarce ever preſcribed any thing for them, it is immediately ſpread abroad with all the Induſtry that Malice is capable of, that I have been their *Murderer*; by the means of which Reports I have ſuſtained no ſmall Damage: but however, in ſpite of all this, *Thanks to God*, I every day gain ground, and don't in the leaſt doubt, but in a very little time to get out of the reach of my *Enemies Malice*.

I muſt confeſs that I am deficient in ſo many things in reſpect to the ornamentive part of *Learning*, which is ſcarce to be obtained out of the *Univerſities*, that I am altogether unfit to be a *Champion* in ſo great a Cauſe; but I have ſo much reaſon to be poſitive that the *Hypotheſis I* have advanced is true, that from the Hints *I* have given *I* dare almoſt be confident, that even in my own time the *Cudgels* will be taken up, and the *Hypotheſis* maintained and aſſerted by one who is able to go through-ſtitch with it better than I can. In the manifeſtation of the greateſt Truths to the *World*, Men of very mean parts are frequently made uſe of to be the firſt *Broachers* of them, but the farther clearing of them is left to Men of the moſt ſubtile and refined parts; and were my *Hypotheſis* but rightly handled, *I* don't doubt but it would

prove

prove the most Glorious of the kind that ever appeared upon the Stage of the *World*. However, till the thing is undertaken by some better Hand, I shall not be wanting to prosecute it as far as *I* am able.

I have one thing to beg of those who shall give themselves the trouble of reading these *Papers*, and that is, that they would not pass a rash Judgment upon me, but that they will be pleased to examine well what *I* have offered both in this and my former Tracts, laying aside Partiality and Prejudice; and if they find that *I* have not made things sufficiently clear, if they will but inform me of it, and lay their Doubts before me, *I* will spare no Pains to make things yet more clear.

Villers-street *in* York Buildings,
October *the* 8*th*, 1697.

BOOKS sold by Daniel Brown.

FOur Treatiſes of Phyſick and Chirurrurgery: *Viz.*

1. A Phyſico-Medical Eſſay concerning *Alkaly* and *Acid.*

2. Farther Conſiderations by way of *Appendix* to the ſaid Eſſay.

3. *Novum Lumen Chirurgicum*, or a New Light of Chirurgery.

4. *Novum Lumen Chirurgicum Vindicatum*, or the New Light of Chirurgery vindicated from many unjuſt Aſperſions.

The Second Edition corrected and enlarged.

A Treatiſe of the *Gout*, wherein both its Cauſes and Cure are demonſtrably made appear; to which are added ſome Medicinal Obſervations concerning the Cure of Fevers, *&c.* by the means of *Acids.*

All by *John Colbatch*, M. D.

Dorchester in Com. Dorſ. Aug. 9. 97.

SIR,

I *have peruſed your ingenious* Treatiſe *of the* Gout; *in which you ſeem to accuſe* Alkalies *as the Original of all* Diſtempers: *Before I ſubſcribe to this* Opinion, *I deſire to be ſatisfied in a few Points. The* Grand Argument *on which you build your* Hypotheſis, *is taken from the green* Colour *of the* Serum *which ariſes from its mixture with* Syrup *of* Violets. *It muſt be confeſt, that* Alkalies *uſually give it this* Tincture, *and there may be ſomething of an* Alkaly, *or at leaſt analagous to it, in the* Serum: *But*

But notwithſtanding this, the many Inferences *which you are pleaſed to draw from this* Phænomenon, *in my Opinion will hardly hold good. For,* 1. *If this* Alkalizated Serum *is the Original of* Diſtempers, *then it muſt follow that whereſoever we find this* Serum, *there muſt be likewiſe a* Diſtemper: *Now I appeal to your ſelf if the* Blood *of a healthy Perſon will not give* Syrup *of* Violets *a green Tincture, does not then the* Argument *labour? may we not impute this* Phænomenon *to ariſe rather from a due mixture of the* Principles, *than from any vitiated Habit of* Blood? *But, ſecondly, there is another way of diſcovering an* Alkaly *beſides that of its Appearance, and that is by its effects, to wit, its* Fermentation *with* Spirit *of* Vitriol. *Now I aver this green* Serum *will not ferment with the aforeſaid* Spirit: *Wherefore if it be an* Alkaly, *it is an* Alkaly *of a particular nature. It muſt be granted that*

that we oftentimes find in the Blood *ſome Particles of a very warm nature predominant, in which caſes I have found* Acids *to be of great uſe: but whether they are of an* Alkaline *nature or not, I leave the* Learned *to determine. If they are* Alkalies, *then either fixt or Volatile; if fixt, how comes it to paſs, that on the Diſſolution of the* Texture *of the* Blood, *they claim the higheſt Place, and nothing will ſerve their turn, but they muſt needs ſwim in the* Serum? *If volatile, how is it that we many times find this warm* Serum *to be little better than inſipid? Volatile Salts you know are aculeated, and affect the Palat ſtrongly. May they not rather be of a ſulphureous Nature, ſince it is the Nature of ſuch Subſtances to ſit uppermoſt on the Diſſolution of* Bodies? *But thirdly, if* Alkalies *are the Original of all* Diſtempers, *whence is it that in* Dropſies, Catarrhs, *ſome* Gouts *and other* Diſtempers, *we find the* Texture

of

of the Blood *ſo thin? 'Tis obſervable that thoſe* Particles *you term* Alkalies, *the more the* Blood *is ſaturated with them, of the more thick conſiſtence it is, as we ſee in* Pleuriſies, Rheumatiſms, *and other* inflammatory Caſes (*in which* Diſtempers, *if in any, theſe* Alkalies *abound) is not then its* Tenuity *rather to be imputed to* Acids? *Do not* Acids *immediately put the* Blood *in a* Fuſion, *and render it thin? Beſides, if* Alkalies *did always offend and cauſe* Pain, *it muſt follow that* Acids *muſt give eaſe: But I aſſure you I have often experienced the contrary; for upon the exhibition of* Rheniſh, White-wine, *and other* Acids, *I have found the Pains immediately exaſperated, and many times it has been a long while e're they went off. Again, if the* Gout *proceed from an* Alkaly, *what is the reaſon you uſe ſo much* Saſſafras *in its Cure? Is* Saſſafras *an* Acid, *and ſo proper to ſubdue this* Alkaly? *I have only*

a word or two to ſpeak concerning the green Colour of Syrup of Violets, and ſo I have done. I believe it may be turned green without an Alkaly: On the exhibition of it to Infants it comes away green very often, and brings away a great deal of green Matter by ſtool; and yet I believe they do not abound with Alkalies. You may read in a late Author of undoubted Credit, that upon an Infant's ſwallowing of a Doſe of Teſtaceous Pouder, an extraordinary Ferment was raiſed in the Stomach of the Child: Now how could this Ferment be raiſed, if it had not an Acid to work upon? Beſides, does not Experience ſhew that nothing is ſo proper in Infants Diſtempers as Alkalies? I have ſome more things to offer; but I deſire you would be pleaſed to ſatisfy me as to theſe. I ſhould be glad to cloſe with your Opinion, and embrace any thing that is new; for I believe Medicine, tho it has met with great Improve-

Improvements *of late, to be capa*
of far greater. I'll give you no fa
ther trouble, only after Thanks
you for your indefatigable Labour
searching out the Truth of things, su
scribe

Your Humble Servant,

F. TUTHIL

The Doctrine *of* ACIDS *in the* Cure *of* DISEASES *farther aſſerted*, &c.

Worthy Sir,

I Have read your *Letter* with all the Pleaſure and Satisfaction imaginable, the *Objections* you have raiſed againſt my *Hypotheſis* being the moſt *ſolid* and *ſubſtantial* I have ever yet met with: And you may aſſure your ſelf that I have ſo great a Value and Eſteem for *Truth*, that I would not dare to contend for any thing which is the Product of my ſhallow Underſtanding, that in the leaſt ſtands in oppoſition to it.

But as I would not by any means in the World oppoſe *Truth*, ſo at the ſame time I would not be guilty of ſo much *Cowardice*, as to quit its Intereſt, becauſe I meet with a multitude of *Oppoſers*. Altho your *Objections* do carry the faireſt ſhew along with them of any thing I have met with of this kind; yet I don't at all doubt, but very eaſily to clear my ſelf from them, the which I ſhall endeavour to do with as much *Candor* and *Friendſhip* as you propoſe them.

Letter. " I have peruſed your in-
" genious *Treatiſe* of the *Gout*, in
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" notwithſtanding this, the many *In-*
" *ferences* which you are pleaſed to
" draw from this *Phænomenon*, in my
" opinion will hardly hold good.

Anſwer. As for my accuſing *Alkalies* as the Cauſe of all or moſt *Diſtempers*, I muſt confeſs it was a very bold *Undertaking*, eſpecially when by ſo doing, I oppoſed ſuch Multitudes of *Great* and *Learned Men*, who by very ſtrenuous and learned *Arguments* aſſerted the quite contrary; whom I could not ſuppoſe but that I ſhould greatly diſpleaſe, by diſturbing them in the quiet poſſeſſion of an *Opinion* that had long been embraced by all ſorts of people. I my

 ſelf,

ſelf, as I elſewhere acknowledg, was formerly as great a *Stickler* for the Uſe of *Alkalies* in the *Cure* of *Diſeaſes*, and did as little believe that they were the *Cauſes* of them, as any one of my *hotteſt Oppoſers* now doth. The *Methods* by which I came to change my Sentiments I ſhall here faithfully relate to you.

Whilſt I was fairly jogging on in the ordinary *Method* of *Practice*, a certain *Gentleman* recommended to me a *powerful Acid*, which he told me I might rely upon in the *Cure* of ſome ſorts of *Fevers*. When I conſidered the thing as an *Exalted Acid*, I could ſcarce give the leaſt Credit to what he ſaid, tho at the ſame time I knew he had no deſign to impoſe upon me: however conſidering the fatal *Succeſs* that frequently attended the Uſe of *Alkalies* and *Alexipharmicks*, (which however at that time I durſt not attribute to the *Medicines*, but the

Malignity of the *Diſtempers*) I was reſolved, upon the firſt *poor Patient* I had in a *Fever*, to try what the forementioned *Acid* would do; and after a *Multitude* of *Trials*, both upon *Poor* and *Rich*, I found I could by the means of my *Acid* cure moſt ſorts of *Fevers* much more effectually and certainly than ever I before could by the means of *Alkalies* and *Alexipharmicks*. The Effects of this *Medicine*, (which is a very cheap one, and known to every body) back'd with ſome other *Obſervations*, put me upon thinking that *Fevers* and other *Diſtempers* did not proceed from the *Blood's* abounding with *Acid Particles*, but on the contrary with *Alkalious* ones: for if it had abounded with *Acids*, the giving of more *Acids* muſt have aggravated the *Symptoms*, whereas on the contrary, I found by the means of my ſimple *Acid* (which however was communicated to me as the greateſt

Secret) I could take off the moſt *dreadful Symptoms* attending moſt *Fevers* with all the Eaſe imaginable. Upon which being greatly in love with *Chymiſtry* and *Chymical Operations*; and having a convenient *Laboratory*, and all Neceſſaries at hand, I was reſolved to examin the *Blood* of *Perſons* in all *Diſtempers* as faſt as I could conveniently procure it, to ſee what *Subſtances* abounded; and after a multitude of *Experiments* in moſt *Caſes*, I could never find any reaſon to charge *Acids* in any one. And that I may not be defective in my *Duty* to ſo friendly and ingenious an *Objector*, I ſhall here trouble you with ſome of my firſt *Experiments*.

Experiment

Experiment I.

July the *fifteenth* I committed to *Distillation* the *Blood* of a *corpulent Lady* of a *ſanguine Complexion*, who eats and drinks highly, and who had formerly had for ſome *Years* together an *inveterate Leproſy*, which I cured by *Cinnabarine Medicines*, &c. But at that time ſhe had a *ſevere Fit* of a *Rheumatiſm*, occaſioned by *Cold* taking. This *Blood* and *Serum*, as it came out of the *Veins*, weighed *two Ounces*, *one Dram*: I obtained from it *nine Drams* of a clear *Phlegmy Liquor* a little impregnated with *Volatile Alkalious Salt*, which altho it was ſcarce manifeſt to the *Taſte*, yet it might readily be diſcerned by pouring a little of it upon ſome good *Syrup* of *Violets*, which it preſently would turn *green*. Beſides

which *Phlegmy Liquor*, I obtained *five Drams ten Grains* of a ſtrong *Volatile Alkalious Spirit*, as ſtrong as the *Spirit* of *Harts-horn* uſually ſold in the *Shops*; *ſixty five Grains* of *fetid Oil*; and in the bottom of the *Retort* there remained *ſeventy Grains* of a light *Caput Mortuum*.

Experiment II.

July the *thirtieth* I committed to *Diſtillation ſeven Ounces three Drams* of the *Blood* of a *Woman*, who had for about *three Weeks* laboured under great *Obſtructions* of her *Nerves*; ſhe had a *Laſsitude* and *Faintneſs* upon her, and in this time from *Fatneſs* ſhe became very lean, and ſo weak as not to be able to go about the *Houſe*; ſhe likewiſe complained of a wonderful *Coldneſs* and *Numbneſs* in her *Head*, and was ſo deaf as not to hear any thing unleſs

leſs People ſpake very loud to her. She had always before this *Illneſs* been uſed to eat and drink well, and was of a *Conſtitution* ſomewhat *Phlegmatick*. This *ſeven Ounces three Drams* of *Blood*, *Serum*, and all together, ſuch as it came out of the *Veins* without ſtanding to putrefy, afforded *four Ounces five Drams* of *Phlegm*, and in the *Neck* of the *Receiver* that caught the *Phlegm* a few *Grains* of *Volatile Salt* in a dry form, with which the *Phlegm* was ſo impregnated, that it would readily turn *Syrup* of *Violets green*. *One Ounce five Drams* and 15 *Grains* of a ſtrong *Volatile Alkaline Spirit*, *two Drams ſix Grains* of *fetid Oil*, and in the bottom of the *Retort* there remained *two Drams two Scruples* of a very light *Caput Mortuum*.

Experiment

Experiment III.

Auguſt the *firſt* I committed to *Diſtillation two Ounces* and a half of the *Blood* of a *Perſon* in a deep *Conſumption*, who had a conſtant *Hectick*, and coughed much, bringing up by *Coughing* a great quantity of *purulent Matter*: He was worn away to a meer *Skeleton*, his Appetite quite gone, and ſo ſhort-breathed, that he was not able to walk at all: He ſweat much for the firſt part of the *Night*, and when the *Sweats* left him, he burnt prodigiouſly. It produced *one Ounce ſix Drams* of *Phlegm*, *three Drams* and a half of a *ſtrong Alkaline Spirit*, *thirty five Grains* of *fetid Oil*, and *ſixty two Grains* of *Caput Mortuum* as light as a Feather.

Experiment

Experiment IV.

August the *fourth* I committed to *Distillation* the *Blood* of a *Gentleman*, who had *scrophulous*, *cancerous Tumours* in *two* parts of his *Body*, which at some times would be *ulcerated*, and at other times after the use of a certain *Remedy*, the *Ulcers* would be healed, but the *Tumors* still remained. This *Blood* weighed *three Ounces six Drams*, and a *Scruple*: It produced *two Ounces one Dram* of insipid *Phlegm*, *seven Drams* and a half of *Volatile Alkalious Spirit*; of *fetid Oil forty Grains*, and of *Caput Mortuum one Dram eighteen Grains*.

Experiment

Experiment V.

AT the same time I committed t
Distillation the *Blood* of a *Gentl*
woman, who had for many Years bee
afflicted with the *Stone* in the *Kidneys*
and at that time laboured under th
most terrible *Fit* of the *Gout* that eve
I saw: It weighed *two Ounces seve*
Drams, *two Scruples* and *seven Grains*
It afforded *two Drams* of a most *vola*
tile Alkalious Spirit before the *Phlegm*
one Ounce four Drams of *Phlegm*, and
six Drams twelve Grains of *Volatile Al*
kalious Spirit of the common sort
two Drams of *fetid Oil*, and *one Dram*
and *half* of *Caput Mortuum*. The *Vo*
latile Alkalious Spirit that came over
before the *Phlegm* in this *Experiment*,
was what I never saw before; but
her *Fit* of the *Gout* was also the most
extra

extraordinary that ever I met with, there being ſcarce a *Joint* of any of the *extreme Parts* that was not at one and the ſame time affected.

Experiment VI.

Auguſt the *tenth* I committed to *Diſtillation four Ounces two Drams* of the *Blood* of a *young Man* of a *ſanguine Complexion*, and in a ſtate of *Health*: It afforded *two Ounces ſix Drams* of *Phlegm* that was perfectly *inſipid*, and ſo deſtitute of *Volatile Alkaly*, that an *Ounce* of it would but juſt diſcolour a very ſmall *quantity* of *Syrup* of *Violets*. It afforded alſo *five Drams* of an *Alkalious Spirit*, *three Drams* of *heavy Oil*, and *two Drams four Grains* of *Caput Mortuum*; which being broke into ſmall *Atoms*, each *Atom* appeared in my *Microſcope* to be

be ſo many little *Bodies* of *Fire*. This *Phænomenon* very rarely appears; but when it doth ſo, it is for the moſt part in the *Caput mortuum* of the *Blood* of people in a ſtate of *Health*.

Experiment VII.

THe ſame day I committed to *Diſtillation* the *Blood* of a *Gentlewoman*, who for many *Years* had had a ſhort *convulſive Cough*, and always ſubject to an *Obſtruction* of her *Menſes*; ſhe was then big with *Child*, and beſides her *Cough*, ſhe then complained of a *Sickneſs* in her *Stomach*, and a loſs of *Appetite*, with a *lurking Fever*, and an *Inflammation* in her *Face*. It weighed *ſeven Ounces ſix Drams*, and afforded *four Ounces four Drams* and a half of *Phlegm*, impregnated with a highly *Volatile Alkalious Gas*, that

that would readily turn *Syrup* of *Violets green*, and in quantity would *effervesce* with *Spirit* of *Niter*, *Sea-Salt*, *Vitriol*, &c. It afforded also *one Ounce four Drams* of highly exalted *Alkalious* Spirit, one Drop of which would turn a considerable quantity of a strong Solution of *Syrup* of *Violets* as green as *Grass*; about *ten Grains* of light *Oil* that swam upon the Spirit, and *three Drams* of a heavy fetid *Oil*, that sunk to the bottom of it, and *two Drams two Scruples* of *Caput mortuum*.

Experiment VIII.

August the *eleventh* I committed to *Distillation three Ounces two Drams* of the *Blood* of a *Man* of a black swarthy *Complexion*, and of a highly *scorbutical habit* of *Body*. It afforded

forded *one Ounce three Drams* and *ten Grains* of *Phlegm*, with a little *volatile Alkalious Gas* mixt with it; *one Ounce fifteen Grains* of a highly ſtrong *Alkalious* Spirit, *two Drams* of fetid *Oil*, which all ſunk to the bottom, and *two Drams* of *Caput mortuum*.

Experiment IX.

Auguſt the *twelfth* I committed to Diſtillation the *Blood* of a *Maid* of a pale *Complexion*, who had what we call the *Green-ſickneſs*: It weighed *three Ounces ſix Drams*, and afforded *one Ounce ſeven Drams* of *Phlegm*, unmixt with *Gas*, *one Ounce two Drams* and a half of a ſtrong *Alkalious Spirit*; *one Dram two Scruples* and a half of fetid *Oil*, which all ſunk to the bottom, and *one Dram* and a half of *Caput mortuum*.

Experiment

Experiment X.

I Committed to Diſtillation *three Ounces two Drams* of the *Blood* of a very worthy *Gentleman*, who was very *Hypocondriacal*, and had had a very great *Pain* in his *Back* and *Hips* of many *Years*, and once a *month* had violent diſtending *Pains* in his left Side, and at that time was much troubled with *Wind*. It afforded me of an inſipid *Phlegm one Ounce ſix Drams*; of a highly impregnated *Alkalious* Spirit *one Ounce two Drams* and a half; of fetid *Oil*, which all ſunk to the bottom, *one Dram ſeventeen Grains*; of *Volatile Alkalious* Salt, which ſtuck in the *Neck* of the *Retort* in a dry form, *ſeventeen Grains*; and of *Caput mortuum one Dram five Grains.*

Experiment XI.

September the *ninth* I committed to Diſtillation *three Ounces* of the *Blood* of an Honourable *Lady*, who had had for *two Years* a ſcrophulous *Tumor* in one of her *Breaſts*, and of a very ſcorbutick *habit* of *body*, and ſubject to wandring *Pains* and nervous *Obſtructions*: It afforded *one* Ounce *ſix* Drams of *Phlegm*, *ſix* Drams of ſtrong *Alkalious* Spirit, *one* Dram *ſeven Grains* of fetid *Oil*, and *one* Dram *ten Grains* of *Caput mortuum*.

I could add a multitude of *Experiments* of this kind, but they belonging to another *Piece*, I have thought fit to trouble you with no more; and in relation to theſe few, I think it neceſſary to premiſe a few things, that I may make things as clear as may be.

To avoid the grand *Objection*, that by expoſing things to violent *Fires* there are new Subſtances produced, which were not exiſtent in the *Concrete* before, (which *Objection* I ſhall take occaſion to make appear to be but a very trifling one) I took the following Method, as the only one by which I could moſt clearly ſatisfy my ſelf, being the moſt plain and eaſy one imaginable.

I firſt of all put the *Blood* as it came out of the *Veins*, *Serum*, and all together, into a glaſs *Retort* with a very wide *Mouth*, to which I had a *Receiver* adapted as fit as poſſibly I could. I afterwards put my *Retort* into a ſand *Furnace*, under which I made a very gentle *Fire*, which I increaſed by degrees, till the Drops began to fall at about a *Second's* diſtance one from another; in which ſtate I continued it, till the *Phlegm* was all come over, and unleſs in *one* or *two* very extraordinary

Caſes I have always found the *Phlegm* come over firſt, which perhaps to ſome may appear a *Paradox*, that what we commonly call *Volatile* Spirit and Salt ſhould not riſe before the *Phlegm*; but upon trial, I am ſure whoever will give themſelves ſo much trouble, will find it true. When it had dropt ſo long that *one* Drop being dropt upon *two* Drams of a ſtrong Solution of Syrup of *Violets* would turn it green, I then changed my *Receiver*, and continued my *Fire* till nothing more would come over; and this laſt I call *Spirit*, having always a proportion more or leſs of a fetid *Oil* mixt with it. Now what we call Spirit of this kind, is only a proportion of *Volatile Alkalious* Salt mixt with ſo much *Phlegm* as will well diſſolve it: Therefore I confeſs the moſt nice way of making theſe *Experiments*, is to ſeparate the *Volatile Alkalious* Salt by it ſelf, without any mixture of

Phlegm; but every *Experiment* requiring a freſh *Veſſel*, and the *Veſſels* themſelves being very chargable, it would be almoſt impoſſible for any private *Man* to make a ſufficient number of *Experiments* without the aſſiſtance of the *Publick*, which occaſioned me in the *Preface* to my *Tract* of the *Gout*, to propoſe a Publick *Stock* to carry on this Work, to bring things to an abſolute certainty, if poſſible.

However, altho theſe *Experiments* are not the moſt accurate that might be made, yet they are plain and eaſy, and are capable of being made by thoſe who want the common *Apparatus* for a *Laboratory*. An Iron *Pot* ſet up in the *Corner* of a *Chimny*, with a few *Retorts* and *Receivers*, are all that are neceſſary for the making of theſe *Experiments*; whereas for the other ſort there are required long bolt-*Heads*, each of which will ſerve but for one *Experiment*, with nice *Furnaces*, and

ſo much other charge and trouble, that few private Men are either capable or willing to be at, to make ſuch a number of *Experiments* that are requiſite. But by the way I have ſet down, a Man may make a vaſt number of *Experiments* for a ſmall charge; it is but going by *one Rule* in the making of them: and I don't ſee, but a Man may act with as much certainty as in the other, only I muſt confeſs it is more liable to the *Objections* of *Cavillers*; but for ſuch I have no value, it being only for ſuch candid ingenious Perſons as your ſelf, for whom I am willing to take pains.

Let a Man but nicely obſerve to change the *Receiver*, when one *Drop* will turn the Syrup of *Violets* green, and that *Blood* that affords the greateſt quantity of ſuch Spirit afterwards that abounds with ſuch *Particles*, may reaſonably be ſuppoſed, nay I think does certainly appear to abound moſt with

with *Volatile Alkaly*, or at leaſt what by all Mankind is taken to be ſuch, it anſwering all the *Phænomena* that Spirit of *Harts-horn* and *Salt Armoniack* will do; affecting the *Palat* in the ſame manner, and making an *Effervescence* with all ſorts of *Acid* Spirits, ſuch as Spirit and Oil of *Vitriol*, *Sulphur*, *Sea-Salt*, *Nitre*, *Vinegar*, &c. Now if ſuch a Subſtance as this be not to be called an *Alkaly*, I ſhould be glad to be informed what is; but it is what I at preſent call ſo for want of a better Name: and that *Blood* that by this ſimple eaſy way of Diſtillation affords the greateſt quantity of Spirit of equal Strength, I cannot forbear to charge with abounding with a greater quantity of *Alkaly* than that which affords leſs. And in examining the foregoing *Experiments*, it plainly appears that the *Blood* of *People* labouring under the *Diſtempers* there mentioned, doth afford a

much greater quantity than that of the healthy *Perſon*; that of the Perſon in a *Conſumption* affording the leaſt of any of thoſe in a morbid ſtate, for which a very good reaſon may be given: the great quantity of *luxuriant Alkaly* being thrown upon the *Lungs*, which cauſeth the *Ulceration* there, and the diſcharge of ſuch a quantity of *Pus* or *Matter* afterwards as emaciates the *Body* even to a *Skeleton*.

As for the *Fire's* producing new Subſtances, which were not exiſtent in *Bodies* before, or which is more pertinent to the point in hand, making *Acids Alkalies* or *Alkalies Acids*, or producing *Alkalies* or *Acids* from Bodies in which they did not exiſt before, I think there is not the leaſt weight in it: I am ſure it is contrary to my *Experience*, and I believe to the *Experience* of all inquiſitive *Chymiſts* that have ever gone before me; tho I confeſs

confeſs there have been ſome ſuperficial ones that have dreamt ſuch things; but to the beſt of my apprehenſion, without the leaſt reaſon for ſo doing. I never could find, but manage *Vitriol* in what manner, or with what degree of *Fire* you pleaſe, and it will always produce an *Acid* Spirit; do the ſame by *Hartshorn*, *Blood*, &c. and it will always produce an *Alkalious* one, or at leaſt what we call ſo: for if people will cavil about *Words*, we ſhall never have an end of *Controverſies*; and indeed moſt of the great *Controverſies* we have had in the World have been more about *Words* than *Things*; Men have contended more earneſtly for the *Shadow* than the *Subſtance*. But my preſent *Controverſy* with my *Worthy Brethren* is not ſuch; our Difference is whether *Diſeaſes* proceed from the *Blood's* abounding with *Alkalious* or *Acid* Subſtances, things which differ

fer much more than in *Name*, their *Natures* being directly oppoſite one to the other. I confeſs there are ſome who have complained both of me and others that have written concerning *Alkaly* and *Acid*, that we have not ſufficiently explained our ſelves what we mean by thoſe *Names*: This I take to be a Diſpute about *Words* only, ſince there are few People in this day, who upon the firſt view of any of thoſe things of either *Tribe*, eſpecially of the manifeſt ones, cannot readily give their *Judgments* to which they belong, and this even amongſt thoſe who are not *Phyſicians*: and therefore altho we may not be able perhaps to give an exact Definition of the *Words*; yet ſince by theſe *Words* all people know we mean ſuch and ſuch *Subſtances* whoſe *Natures* are directly contrary, that ought to breed no difference. And for my part, I know no other uſe of *Words*, than by

by the means of them to impart my Mind to others; and if that Intention be once answered, I care for no more, but shall leave the *Philologists* to squabble as long as they please. But as for the producing either *Alkalies* or *Acids* by the means of *Fire* out of those *Bodies* in which they did not exist before, or the changing of an *Acid* into an *Alkaly*, or producing either out of the other that was simply one of them before; if any one will shew me such an *Experiment*, or demonstrate such a thing without *Fallacy*, I shall own my self his *humble Servant*.

As for the *Inferences* I draw from the *Serum* of the *Blood* turning a Solution of Syrup of *Violets* from a blue *Colour* to that of Greenness, being what all manifest *Alkalies* will do, all manifest *Acids* changing the same blue Colour into Redness; I see no reason at all that I have to recede from

from what I have ſaid concerning that matter: For if it be true that all manifeſt *Acids* do change a Solution of Syrup of *Violets* from a blue Colour to that of Redneſs, and all manifeſt *Alkalies* do change the ſaid blue Colour into a green one; if the *Serum* of the *Blood* doth ſo change the Colour, a Man may, to the beſt of my Apprehenſion, without Preſumption conclude, that that *Serum* which doth change a Solution of Syrup of *Violets* from blue to green, doth abound with *Alkalious* Particles: And I am ſure if it did abound with *Acids*, it would not fail of changing the blue Colour of the ſaid Solution into a red one: Which is a thing any Man may eaſily try; let but a ſufficient quantity of any *Acid Spirit* be mixed with the *Serum* of a ſick Man's *Blood* that will before in a ſmall quantity turn a very large quantity of Solution of Syrup of *Violets* from blue

blue to Greenneſs; if the *Acid* be ſo much as will overpower the *Alkaly* in the *Serum*, inſtead of turning a Solution of Syrup of *Violets* green, it will immediately upon the mixing of it become red.

But that you may ſee I am not the only Perſon who has made uſe of this *Experiment* to diſtinguiſh between *Alkalies* and *Acids*, I ſhall produce an Authority or two for my ſo doing. Dr. *Fran. Andre* of *Caen*, in his *Diſcourſe* concerning *Acid* and *Alkaly*, pag. the 65*th*, *Engliſh Tranſlation*, tells us, That the principal Cauſe of permanent Colours comes only from the different nature and different mixture of *Acid* Salts with *Alkaly* Salts, which we may obſerve by divers *Experiments*.

Experiment I.

All Acids *deſtroy blue Colours, and all* Alkalies *make them reappear.*

Expe-

Experiment II.

Syrup of Violets, *which is a compo-*
ſition of Acid *and* Alkaly, *becomes of*
the faireſt green *in the World when it is*
mingled with ſome Alkaly, *as with* Oil
of Tartar *made* per deliquium, *and*
reddiſh *when ſome* Acid *is mingled*
therewith.

Swalve in his *Tract* of *Alkali* and *Acidum*, pag. 141. hath it much to the ſame purpoſe: *Syrupum Violarum præ oculis habeto, quia ſuſpectam habet Solutionem plumbeam per Acetum in Saccharum redactam. Syrupus ille ab Acido quovis rufeſcit, ab Alkali vireſcit; hinc inſervit aptiſſime dignotioni utriuſque. Quodvis Acidum eum fiſtit rubrum, ſicut quodvis Alkali viridem, fixa & volatilia uniuſmodi ſunt, &c.*

But my *Hypotheſis* doth not altogether hang upon ſo ſlender a *Thred* as the change of Colour, tho that be

a better *Foundation* than a great many *Hypotheſes* are built upon. You may very well remember that I brought this *Experiment* upon the Stage, only to ſatisfy *Gentlemen* who have not the conveniency of making more elaborate ones: And all *Mankind* having imbibed the Notion that if any thing ailed them, they immediately concluded that it proceeded from an *Acidity* of their *Blood*; I therefore thought it my *Duty* to convince them of the contrary in the moſt familiar manner I could; but I never expected that *Phyſicians* ſhould take up with it, I referring them to a more certain *Method*, *viz.* to *analize* the *Blood* of their ſick *Patients*, and to compare the Subſtances produced from it, with the Subſtances produced from the *Blood* of People in a ſtate of *Health*: And if once they will but take that Method, I am morally certain that the number of

my

my *Enemies* will every day decreaſe. But let People continue to ſay what they will of me, I ſhall endeavour to ſatisfy my ſelf, and to act for my *Patients* with as clear a Conſcience as poſſibly I can: And if after all I am reproached by my *Brethren*, I muſt bear it as well as I can. It never will be in any *Phyſician's* power to make people Immortal; but at the ſame time I am abſolutely certain that peoples Lives are frequently prolonged by the uſe of proper *Remedies*; and I doubt not but that they are alſo ſhortned by the uſe of improper ones: And if we are miſtaken as to the *Cauſe* of *Diſeaſes*, I don't ſee how we can readily find out proper *Medicines*.

Letter. "For firſt if this *Alkaliſated* "*Serum* is the Original of *Diſtempers*, "then it muſt follow that whereſo- "ever we find this *Serum*, there "muſt

" must be likewise a *Distemper*: now " I appeal to your self if the *Blood* " of a healthy Person will not give " Syrup of *Violets* a green *Tincture*, " does not then the *Argument* labour? " may we not then impute this *Phæ-* " *nomenon* to arise rather from a due " mixture of the *Principles* than " from any vitiated Habit of *Blood*?

Answer. I confess this is close arguing, and much to the purpose: But you may remember that I no where say that the *Serum* of well Persons *Blood* will not turn a Solution of Syrup of *Violets* from a blue Colour to that of Greenness. But on the other hand, I have asserted that the *Blood* of those labouring under any *Distemper* I have met with will do it, in order to prove that the said *Distempers* did not proceed from *Acids*; because if it had abounded with *Acids*, instead of turning it from blue to

 green,

green, it would, as is before obſerved, have turned it from blue to red. Well, but ſtill the *Serum* of the *Blood* of a well *Perſon* will cauſe the ſame change in the Solution of Syrup of *Violets* as that of a ſick one; and therefore to rid my ſelf of that *Difficulty* is the great thing I have now to do.

Firſt, I all along throughout my *Tract* of the *Gout*, the *Piece* you refer to, and elſewhere, do endeavour to prove that the *Blood* of *Perſons* in a morbid ſtate doth more abound with *Alkalious Particles* than that of well *Perſons*, but no where ſay that the *Blood* of well *Perſons* hath no *Alkaly* in it: And that the *Blood* of ſick *People* in all or moſt *Diſtempers* doth abound with ſuch *Particles* more than that of thoſe that are in a ſtate of *Health*, is to be demonſtrated ſeveral Ways: *Firſt*, If you take an equal *Proportion* of the *Serum* of the *Blood*

 of

of a healthy *Perſon*, and of that of a *Perſon* in a *Fever*, *Pleuriſy*, &c. and put them into the ſame *Quantities* of a Solution of Syrup of *Violets* of equal *Strength*, you will find that where-as the *Serum* of the ſick *Perſon's Blood* was poured, to be much greener than the other. *Secondly*, If you take *two Ounces* of the *Blood* of a healthy *Perſon* as it comes out of the *Veins*, *Serum*, and all together, and *two Ounces* of the *Blood* of a *Perſon* in a *Fever*, *Pleuriſy*, a *Fit* of the *Gout*, &c. and commit them to *Diſtillation* in the ſame degree of *Heat*, you will find that the *Blood* of the ſick *Perſon* will produce a much greater quantity of *Alkaly* than that of the *Perſon* in a ſtate of *Health*.

Secondly, What ſhall I do with this *Alkaly* that is to be found in the *Blood* of healthy *Perſons*? Becauſe every Body has ſome *Alkaly* in their *Blood*, muſt every Body therefore

labour under ſome *Diſtemper*? Why truly I can't ſay that I ever yet met with that *Perſon*, who upon ſtrict *Enquiry* had not ſome *Complaint* or other to make. *Mankind* ſince the *Fall* is ſubject to *Death* every *moment*; there being ſince that time a *Principle* of *Death*, in oppoſition to that of *Life*, implanted in our *Natures*; and not only in our *Natures*, but in the *Nature* of every thing elſe for our ſakes. *And God ſaid to* Adam (upon his *Fall*) *Curſed be the Ground for thy ſake*, &c. I confeſs there are many in our *Age*, who will laugh at and ridicule me for having recourſe to Sacred *Writ*, eſpecially to the *Writings* of *Moſes*, which they look upon as a kind of *Romance*; but let them laugh on. If there were not a *Principle* of *Death* within us, how is it poſſible for a *Man* one *Hour* to be in a good ſtate of *Health*, and the very next to be expiring? How this may be I ſhall endeavour

deavour to demonſtrate as clearly as poſſibly I can.

All the *Alkaly* that there is to be found in the *Blood* is moſt certainly an *excrement*, and in a way of being carried off by ſome of the *Emunctories*; and if any of the *Emunctories* chance to be ſtopt, that this *excrementitious Alkaly* hath not room to paſs out by them, why then there is a *Diſtemper* of ſome kind or other cauſed, the *Blood* being overcharged with this *excrementitious Matter*. How many *Diſtempers* are occaſioned by what we call taking of *Cold*, which is nothing elſe but a *Conſtipation* of the *Pores*? What is the *Occaſion* of the *Jaundice*, but an *Obſtruction* of thoſe *Veſſels* in the *Liver*, which ſeparate the *bilious Particles* from the *Blood*? and what *dreadful Diſtempers* does the *Jaundice* frequently cauſe? How are *Mortals* tormented by the *Stone* in the *Kidneys* and *Bladder*? and what is the origi-

nal *Cauſe* of them, but an *Obſtruction* in the *Kidneys*, whereby the *excrementitious Alkaly*, which ſhould be carried off that way, by its over long ſta in thoſe Parts is converted into th *Subſtance* we call a *Stone*? And who ever will give themſelves the troub of diſtilling *Stones* either from th *Kidneys* or *Bladder*, will find that the are compoſed of *Alkalious Particles*. I could expatiate, and I doubt no give an Account of the *Cauſe* of al or moſt of the *Diſtempers* attending *Human Bodies*, from the *excrementitious Alkaly* being hindred from being carried off by the proper *Emunctories*. And I appeal to all *Candid Ingenious Perſons*, even thoſe who are my greateſt *Enemies*, whether all the *Excrements* of our *Bodies* are not *Alkalies*. When I ſpeak of *Excrements*, I don mean that which is carried off by *Stool*, I having told you in another Place, that my *ſqueamiſh Stomach* would ne-

ver

ver yet give me leave to make *Experiments* upon that, to know what Parts it contained; but every Body knows that the *Bile* is the greateſt part, if not all carried off that way; and that *Bile* is an *Alkaly* I ſuppoſe no Body diſputes.

I know there are a great many who will reply, That we will allow you that the *Matter*, or at leaſt the *Saline Subſtance* that is diſcharged by the *Glands* of the *Skin*, by *Urine*, the *Bile*, *Tears*, &c. are *Alkalious*; but there is another *Excrement*, the which you take no notice of, which is a very conſiderable one, and that is the *Matter* diſcharged from the *Glands* of the *Mouth*, called *Spittle*, which in all reſpects ſeems to be an *Acid*. To which I anſwer,

That the *Saliva* or *Spittle* is ſo far from being an *Excrement*, that it is one of the moſt noble *Juices* that our *Body* affords; it being the only

Menſtruum that *Nature* hath furniſhed us with for the diſſolving of the ſolid *Food* we eat, and turning it into a *nutritious Juice*: For by chewing of our *Meat* we compreſs the *Saliva Glands*, and cauſe them to throw out a ſufficient quantity of the *Juice* contained in them; which being mixed with the *Food*, is along with it carried into the *Stomach*, where the *Office* of *Digeſtion* is performed. But thoſe People, who ſwallow their *Meat* without chewing, ſeldom or never digeſt it, and are always lean. Now when I ſpeak of *Saliva* or *Spittle*, I don't mean that *inviſcated*, *coagulated* Subſtance that People hauk up in a *Morning*, or diſcharge when they have a *Cold* as they call it, that being a degenerate *Saliva*; but I mean that *thin*, *Limpid* Subſtance that ſome great *Tobacco-Takers* laviſhly let run from them: which is the only reaſon that the ſmoaking of *Tobacco* takes away moſt

moſt Mens *Appetites*; for would they ſmoak *Tobacco* as a great and worthy *Prelate* and my ſelf do, and as all the *Turkiſh Nation* do, which is to ſwallow their *Spittle*, they would rarely want an *Appetite*.

But that I may return to my proper Buſineſs, which is to prove that all the *Alkaly* we have in our *Blood* is an *Excrement*, and in a way of being carried off as ſuch, or for want of being carried off, would cauſe a *Diſtemper* of ſome kind or other. And here give me leave to acquaint you, that according to the beſt of my Apprehenſion, the *Matter* of all our *Diſtempers* is the ſame; but according to the difference of the *Part* immediately affected, the *Diſtemper* differs: And indeed when I conſider the wonderful *Structure* of our *Bodies*, of what *Multitudes* of *minute Parts* it is compoſed, inſtead of being ſurprized at our being ſick and out of order ſo often

often as we are, I am almoſt amazed to think we are ever well. All *Alkalies* that I know of will preſently cauſe *Rottenneſs* and *Putrefaction* in *Animal Subſtances*, as may be ſeen in making of *Glovers Leather*, an Inſtance of which I have given in my *Tract* of the *Gout*, from a very good hand. Nay it is a thing very eaſily to be experimented by any one; for let but a *Piece* of *Fleſh* of any kind be put into a *Liquor* well impregnated with *Alkaly*, and in a ſmall time (tho in the *Winter*, when things are not ſubject to putrefy) it will turn to a meer *Putrilago*, a *Maſs* of *Rottenneſs* and *Corruption*. Whereas let a *Piece* of the ſame *Fleſh* be put into *Liquor* impregnated equally ſtrong with any *Acid*, and it will preſerve it from *Putrefaction*. *Alkalies*, whether *Volatile* or *fixt*, being applied to the *Skin*, will either cauſe a *Mortification*, or deſtroy the *Tone* of the *Part*; where-

whereas *Acids* of equal *Strength* will prevent *Mortifications*, where they are actually beginning, and frequently restore the *Parts* to their *Tone*, where 'tis loſt.

But it may very reaſonably be askt, where is the *Acid* in the *Blood* that does us all that *Service* you ſpeak of, or what becomes of all the *Acid* we take in, you owning *Bread* to be an *Acid*, and ſeveral other things that are every day uſed by all *Mankind*, when in your *Analyſis* of the *Blood* you mention no ſuch thing, and ſeem to intimate, that altho People take them in never ſo great quantities, yet they never abound ſo as to cauſe a *Diſtemper*? This is what may reaſonably be offered, and is very neceſſary that I ſhould clear as well as I can.

The *Life* of *Man* I take to be a *Fire* or *Flame*, and all we eat and drink, together

together with the *Air* we draw in, to be as *Fuel* for this *Flame*; and that which is not proper *Fuel* for it is caſt off as *Excrement*. Now I appeal to all *Mankind* converſant in *Chymiſtry*, whether the *Excrements* of *Fire*, or of the *Fuel* of which it is made, *viz. Aſhes* and *Soot*, be not *Alkalies*; and that our *Lives* are nothing elſe but a *Flame* or *Fire* of the ſame *Nature* with that commonly uſed, or very *analogous* to it, I think is plain.

It is the *Nature* of all common *Fire* to conſume whatever is a proper *Pabulum* or *Fuel* for it, and to leave its *Excrements* behind it, which, as is before obſerved, are *Aſhes* and *Soot*; in the *Aſhes* is contained a *fixt Alkaly*, and in the *Soot* a *Volatile* one. It is very plain that the *Body* of *Man* would ſoon be conſumed, unleſs ſupplied with proper *Food*; and how could this be, unleſs there were ſomething to conſume it?

Common

Common *Fire* cannot ſubſiſt where there is not a due *Acceſs* of *Air* to it: Is it not the very ſame thing with the *Life* of *Man*? let him be but incloſed in a Place where the *Air* is not capable of coming at him, and immediately he expires. It is well known that it is the common *Practice* of *Miners*, and thoſe who have occaſion to go into *ſubterraneous Vaults* or *Paſſages*, to carry *Candles*, *Torches*, or ſome ſuch things along with them, not more for the conveniency of the *Light* they afford them in ſuch dark *Places*, than for the Security they are to them againſt the moſt imminent *Danger*, *viz.* the *Loſs* of their *Lives*: for as ſoon as they once perceive their *Lights* begin to grow dim, common *Prudence* and *Experience* teaches them to retreat; and whoever has chanced to be ſo *fool-hardy* as to advance after the *Light* hath been extinguiſhed, has

ſcarce

ſcarce ever returned either to repent, or give an account of his *Folly*. A fatal *Accident* of this kind happened to *two Men* in a great *Vault* in a *Yard* belonging to my *Father's Houſe*, into which *Vault*, if we put a large *Pan* of *Charcoal* well lighted, they would be extinguiſhed in a *moment*; and the *two Men* before mentioned, as near as we could gueſs, loſt their *Lives* in as ſmall a time.

Heat and *Warmth* are the conſtant *Concomitants* of *Fire*: And that there is both *Heat* and *Warmth* in the *Body* of *Man*, none that is *Maſter* of his *Senſes* will deny: But why ſhould I make a *Diſtinction* between *Heat* and *Warmth*, when they only differ in degree? But not to ſtand any longer about that matter: How is it poſſible for the *Heat* of our *Bodies* to be ſuſtained, unleſs there were a *Fire* within us to do it? We are generally as hot, if not hotter in *Bed*, altho we uſe no

Exter-

Exercise to excite the *Motion* of our *Blood* and *Juices*, than when we are up and in motion. Nay, mere *Motion*, let the great *Des Cartes* and his *Followers* say what they will, will never cause any *Heat* in fluid *Bodies*, altho excited never so much: I confess in solid ones, upon violent *Friction* or the like, there will a *Heat* arise; but what relation hath that to us, when we are asleep?

There is a received *Maxim*, that there is no *Smoak* but there is some *Fire*: Every Body must be sensible what vast quantities of *Steams* there are continually discharged from all *Parts* of our Bodies; and how that comes to be, unless occasioned from some *Fire* within us, I cannot understand.

I confess I have the *Concurrence* of some of the greatest *Men* perhaps the *World* hath afforded, that the *Life* of *Man* is a *Flame*; but at present I have not

not leisure to peruse their *Writings* to see what they have said upon this *Subject*.

If any *Man* shall ask me, how this *Flame* came to be first kindled? I shall make no other reply, but desire him to inform me how the *Ovum* came to be impregnated with the *Masculine Seed*, so as to make it capable of producing a *Human Body*? and when he hath done that, I will quickly tell him how this *Flame* came to be first kindled.

The next thing I have to do, is to consider what is the proper *Pabulum* or *Fuel* for *Fire*, and this every body knows must be something that is *sulphureous*: Now there is scarce a *Sulphur* we know of that is not combined with an *Acid*; *Sulphurs* seeming to be the genuine *Vehicles* for *Acids*, with which they are generally united, few *Sulphurs* being devoid of *Acids*, and few *Acids* devoid of *Sulphurs*; and

and as the one or the other predominates, so they are denominated either *Acido-Sulphurea* or *Sulphureo-Acida*. As *Sulphurs* are the *Vehicles* of *Acids*, so *Acids* seem to be a sort of *Vinculum* to *Sulphurs*, by the means of which they are hindred from *Dissipation*. Whenever a *Sulphur* is devoid of *Acid*, it is of so *Volatile* a *Nature*, that it is scarcely to be preserved from *Dissipation*: Not that I suppose any *Sulphurs* to be perfectly destitute of an *Acid*; but the less *Acid* they have mixt with them, the more *Volatile* they are; such are *Rectified Spirit* of *Wine*, *Camphire*, *&c.* And Mr. *Godfry* assures me that he can make *Spirit* of *Wine* so *Volatile*, that a *Drop* of it won't fall to the *Ground*, but disappear almost as soon as it is disingaged from the *Mouth* of the *Bottle* in which it is contained. Now the purer the *Pabulum* is, the less *Excrement* is produced; *Spirit* of *Wine* and *Camphire*

produce little or no *Excrement* at all; whereas *Oil Olive*, *Bees-Wax*, *Tallow*, &c. afford a great deal of *Soot*, in which is contained the *Volatile Alkaly*. Moſt *Vegetables* commonly in uſe for burning, afford a great quantity both of *Aſhes* and *Soot*, ſome more of one, and leſs of the other; as *Oak* a great quantity of *Aſhes* in which is contained the *fixt Alkaly*, and but a little *Soot*, in which the *Volatile Salt* is contained. *Beech* on the other hand produces but a ſmall quantity of *Aſhes*, but a large quantity of *Soot*: this is what I have been informed of by thoſe who burn quantities of *Wood*. The *Subſtances* we live upon, and are nouriſhed with, are not to be reckoned amongſt the number of thoſe which afford no *Excrement* upon burning: and by the way I can't underſtand what ſhould become of all we eat and drink, unleſs, as is before obſerved, there were a *Fire* or *Flame* within

in us to consume it; and the *Consumption* is so great, that we are not able to live without a constant and frequent Supply. And which to me is none of the least Arguments to prove that our *Life* is a *Flame*, is what is manifest by every day's *Experience*, *viz.* Let a very fat Man be seized with a *Fever*, or any such *Distemper*, attended with a total loss of *Appetite*; and the *Fat*, which is the proper *Fuel* for *Fire*, will first be consumed: and in such *Distempers* it is frequently seen that very corpulent Persons will in a small time be wasted to a *Skeleton*; when at the same time the sensible *Evacuations* of *Urine* and *Stool* are less than in a time of *Health*; which thing could not be, unless there were a *Flame* to cause that *Consumption*: And wherever there is a *Fire* or *Flame*, especially when supplied with gross *Matter*, there must be a throwing off of *Excrements*; which is the reason

that the *Blood* in *Fevers*, and other *Distempers* of that *nature*, abounds more with *Volatile Alkaly* than that of well People, becauſe the *Flame* is more excited at that time, and the *Secretory Veſſels* deſigned for that purpoſe being ſome way or other obſtructed, cannot carry off the *Excrements* ſo faſt as they are produced.

Let us conſider what all the *Alkalious Salts*, whether *Volatile* or *fixt*, are. I ſuppoſe no one can produce me a *fixt Alkaly*, which is the bare *Product* of *Nature*: The very Name it ſelf being derived from the *Salt* of the *Aſhes* of the *Herb Kaly*, as I have obſerved in the *Appendix* to my *Eſſay* of *Alkaly* and *Acid*, in concurrence with ſeveral *Authors*, who have written upon the ſame *Subject*; tho none that I know of have ever written upon it with the ſame deſign that I have done. But that you may ſee I am not ſingular, I ſhall produce two or

three

three *Authorities*. *Swalve* in his *Treatise* of *Alkaly* and *Acid*, pag. 48. does thus define it. *Originem Nominis Alkali ab incineratâ Herbâ Ægyptiacâ Kali desumptam haud ignoras : Salibus illud fixis & lixivialibus abhinc applicatum; illudq; primariò judicatum Alkali, quod Gensin suam è cinere & lixivio traxerat.* *Tachenius* in his *Hippocrates Chymicus* defines it much after the same manner. *Fit itaq; Sal Kali ex Herbâ Kali, magna copia in Ægypto proveniente, quæ ibidem viridis exuritur, & ad nos transfertur; à quibusdam vocatur etiam Soda, Alumen catmum, & vero nomine Sal Kali appellatur; non reperitur tamen Sal Kali in Natura, nec in omnibus tribus Regnis, nisi ab Artifice ignis ope producatur.* For my own part, I could never yet see any such thing as a *fixt Alkaly* to be obtained any other way than from the *Ashes* of *Plants*, which are that part of them that is altogether unfit for *Fuel* for common *Fire*, they plainly appearing to me to

be an *Excrement*, and as ſuch will rot and deſtroy all *Bodies*, eſpecially *Animal* ones, that they are mixt with. In *Animal Bodies* there is no ſuch thing to be found unleſs in the *Bile*, which is an *Excrement*, and ſeems to be as genuine an *Excrement* of *Fire* as any thing whatſoever, both from its burnt *Taſt*, *Colour*, &c. and I am ſure if it be detained in the Body, will play the *Devil*.

As for *Volatile Alkalies*, they are to be found in *Soot*, in *Plants* after *Putrefaction*, in *Urine*, in *Horns* and *Hoofs* of *Animals*, and in *Blood*; and altho *Sweat* abound with a great quantity of it, yet that is not to be obtained in quantities ſufficient to draw *Volatile Salt* from it. *Soot* is the *Volatile Excrement* of *Fire*, or of the *Matter* of which *Fire* is made. *Urine* is an *Excrement* of our *Bodies*, and the *Volatile Salt* in it the *Excrement* of *Animal Fire*, or of that which is its

Pabu-

Pabulum or *Fuel*. The *Horns* and *Hoofs* of *Beaſts* are generally allowed to be excrementitious Parts of their *Bodies*, and they afford the greateſt quantity of *Volatile Salt* of any thing beſides. As for *Blood*, the *Volatile Alkaly* to be obtained from it, is only the excrementitious part of it, or rather of the vital *Flame*, or the *Pabulum* of it, in a way of being carried off by ſome of the *Emunctories*, which, if it chance to be obſtructed in its *Paſſage*, affects the *Body* with ſome *Diſtemper* or other. As for the *Volatile Salt* to be obtained from *Plants* after *Putrefaction*, I ſhall give you a particular account of it, by reaſon that ſome *Men* have made a great *ſtir* about it, and ſpent a great deal of time in queſt after it, ſuppoſing it to be one of the grand *Medicines* of *Nature*. Moſt, if not all *Vegetables* do principally conſiſt of a *Volatile Acid* and a *Sulphur*, which make them a

proper *Fuel* for *Fire*: Now let any of the *Aromatick Plants*, ſuch as *Roſemary*, *Sage*, *Lavender*, *Mint*, &c. be well dried, and afterwards be put into a *Hole* in a moiſt *Cellar*, and rammed down very hard; let them lie without a *Cover* till they grow hot; after they have done ſo ſome time, and the *Acido-ſulphureous* parts are exhaled (which is much the ſame, as if they had been burnt) they will then contract a ſtinking ill *Smell*; when they are in this ſtate, put them into a tall glaſs *Bottle*, with a glaſs *Head*, and in gentle Heat of *Sand* you will obtain a *Volatile Alkalious Spirit* and *Salt*, good for nothing elſe that I know of, but to bring other *Bodies* into the ſame ſtate of *Corruption* that the *Plants* from which it was extracted were before it was drawn from them. Thus I have let you ſee what is my Judgment concerning *Alkalies*, and how they are produced.

But

But as for the *Acid* that we take in as *Food* and otherwiſe, that, together with the *Sulphur*, are made uſe of as a *Pabulum* or *Fuel* for the vital *Flame*; and were not the *Sulphureous Particles* in ſome meaſure ſuppreſſed and detained by the means of an *Acid*, the *Thred* of our *Lives* would be but very ſhort. Dr. *Andre* of *Caen* in *Normandy* in his *Diſcourſe* of *Alkaly* and *Acid*, ſpeaking of *Acid*, pag. 21. *Engl. Tranſlation*, he ſaith, *There is nothing in this World which owes not its birth to an Acid Salt: Nothing can live nor be multiplied without it: It is that Soul of the World, of which the Antients have ſo often told us.* *Tachenius* in his *Clavis Hippocratis Medicinæ*, from pag. 3, to pag. 11. gives ſtrange *Encomiums* of it, ſome of which I ſhall here tranſcribe. Speaking of *Acid*, he brings in *Lullius*. *Nos & multi alii, inquit, vocamus illum Filium Solis: nam primò per Solis influentiam fuit generatus per naturam*

naturam ſine adjutorio ſcientiæ vel artis; & ideò Ariſtoteles vocavit Solem patrem & Terram matrem omnium vegetabilium, &c. He afterwards ſays, *Acidum itaq; eſt & pingue antiquiſſimum principium, & omnium rerum vita & fons, quod variis nominibus nominarunt Scriptores, ut ignem, ſolem, aurum, ſpiritum, ſulphur, forma, & ſexcentis aliis nominibus, quæ omnia ſynonima ſunt, eſtq; eadem res, cui tamen diverſo reſpectu diverſa nomina imponuntur; nobis tamen eam hic & ubique commodiore opportunitate Acidum vocare libet.* Again, *A Sole itaq; ut a fonte defluunt Acidum naturale & lumen vitale, quæ reipſa ſunt idem, ſed officio diſtinguuntur: Acidi enim munus eſt ad interiora Naturæ penetrare; luminis verò exteriora patefacere, utcumq; ſolis radii operentur; adeoq; Sol eſt primum naturale organum, cujus acceſſu & receſſu omnes naturæ operationes variæ reguntur, intenduntur ac remittuntur. Hinc Coſmopolita ingenioſiſſimus; ſi non eſſet*

esset vis vegetabilis sulphuris (id est Acidum pingue & filius solis) non coagularetur aqua in herbas: si itaq; Acidum à sole fluens infunditur in materiam ex gr. mineralem statim recipit determinationem naturæ, & virtutis mineralis, & sic de cæteris animalibus, & de Vegetabilibus rebus dixit Lullius; & propterea quòd hæc aciditas naturalis omnibus mundi Materiis copulatur, Mercurii nomen à sapientibus adepta est: Et licet oculus vulgi quotidie videat Acidi naturalis multiplicationem, nec non incorporationem, attamen illud non cognoscit: exempli loco sit minera salis petræ Patavii jam evacuata, quæ quinque vel septem annorum decursu rursus repletur, est enim terra ejus nutrix, Hermete teste, unde hic spiritus in illa corpus assumit, atq; fit inflammabile nitrum.

Acids are without doubt the most perfect *Bodies* in *Nature*, since they cannot undergo a *Putrefaction*; and what we take in by our *Mouths* is so far from being too much for us, that besides

ſides it we are not able to live without drawing in freſh Supplies from the *Air* every moment; and that the *Air* is filled with *Acid* Salts, a Multitude of common and obvious *Experiments* do evince: as for inſtance, Let *Vitriol* be diſtilled with the moſt violent *Fire* imaginable, ſo that it will not yield the leaſt drop of *Acid* Spirit more; do but take out the *Caput mortuum* or *Colcathar*, and expoſe it to the open *Air* under a *Shed*, where it may not be rained upon, and in a few months time it will become good *Vitriol* again, and yield as much *Acid Spirit* as it did at firſt time, and this it will do *ad infinitum*: The ſame thing may be done by the *Caput mortuum* of *Sea-ſalt*, *Nitre*, &c. Now if the *Air* did not abound with *Acid Particles*, from whence came thoſe inſipid Bodies that were totally deprived of the *Acid* they had in them by the firſt *Diſtillation*,

tillation, to regain the same quantity of *Acid* that they had before they were distilled? If you expose the *Caput mortuum* of those things that by *Distillation* had afforded an *Alkalious* Spirit or Salt, that *Caput mortuum* will never regain its *Alkaly* again, let it lie never so long; which argues plainly that the *Particles* of the *Air* are not *Alkalious*: And therefore were *Acids* so injurious to Mens Bodies as some would have us believe they are, every *Draught* of *Air* we take in must poison us, since the *Air* is full of *Acid Particles*; and I believe no body doubts but that the *Air* has a free *Communication* with the *Blood*, if not by the *Lungs*, at least by the receptory *Pores* of *Skin*: But I think it's plain that there is a *Communication* with it both ways.

By all the ways I could yet contrive, I have not been able to procure *one Grain* of pure *Acid* from the *Blood* of either healthy or sick *People*: But

But in the before recited *Experiments* you find there is always a proportion of fetid *Oil*, with which *Oil* the *Acid* is imbodied to make it a proper *Pabulum* for the *vital Flame*; and when once *Acid* and *Oleaginous* Bodies are well united, which they will very readily do, it is no very easy matter to cause a Separation of them. Now the reason that this *Oil* hath such a very ill Savour is from its coming over the *Helm* along with the *Volatile Alkaly*; all *Alkalies*, whether *Volatile* or *fixt*, giving a very ill *Smell* to *sulphureous oleaginous* Bodies, especially if together they are exposed to a great degree of *Heat*; and the *Heat* that is required to bring them over the *Helm* is much greater than that of our Bodies, tho in a burning *Fever*: Yet from the *Action* of the *Volatile excrementitious Alkaly* upon the *sulphureous* parts of the *Blood*, may I think a very good reason be given for the

Symp-

Symptoms that attend moſt, if not all *Fevers*; for all *Alkalies* deſtroy *Sulphurs*, as may be ſeen in the making of *Soap*, *Hepar Sulphuris*, &c. *Sulphurs* are the active Principle in both Animal and Vegetable *Juices*; *Alkalies* by breaking and dividing the *Particles* of the *Sulphurs* excite Fermentations, and by degrees cauſe a total Diſſipation of them. *Acids* are a ſort of *Vinculum* to *Sulphurs*, and therefore they ſuppreſs *Fermentations*, and keep the *Sulphur* from Diſſipation: From whence I infer that a true *Oleoſum* muſt be the great *Medicine*; but it muſt not be ſuch a one as commonly goes under that Name, which is only a *Combination* of *Volatile Alkaly* with Spirit of *Wine* and *Aromatick Oils* or *Spices*, inſtead of which it muſt be an *Acido-oleoſum*, an *exalted Acid*, combined after the foreſaid manner: The *Life* of *Man* it ſelf being principally ſupported by an *Acido-oleoſum*.

If

If any one asks me what I mean by *Sulphur*? My Anſwer is, whatſoever is inflammable. And with ſuch kind of *Subſtances* the World is almoſt every where filled: For without them neither the *Lives* of *Men* nor *Beaſts* could be any way ſupported; and therefore thoſe places that are beſt ſupplied with them, are beſt ſtocked with Animals of all kinds; whereas thoſe that are deficient in them, ſuch as the *Deſarts* of *Arabia*, &c. are almoſt wholly deſtitute of all kinds of living Creatures.

Letter. "But *ſecondly*, there is a-
" nother way of diſcovering an *Al-*
" *kaly* beſides that of its Appearance,
" and that is by its effects, to wit,
" its *Fermentation* with Spirit of *Vitriol*.
" Now I aver this green *Serum* will
" not ferment with the foreſaid Spi-
" rit: Wherefore if it be an *Alkaly*,
" it is an *Alkaly* of a particular *nature*.

" I

" It must be granted that we often-
" times find in the *Blood* some Par-
" ticles of a very warm nature
" predominant, in which cases I
" have found *Acids* to be of great
" use: but whether they are of an
" *Alkaline* Nature or not, I leave to
" the *Learned* to determine. If they
" are *Alkalies*, then either fixt or
" Volatile; if fixt, how comes it
" to pass, that on the Dissolution
" of the *Texture* of the *Blood* they
" claim the highest place, and no-
" thing will serve their turn, but they
" must needs swim in the *Serum*? if
" Volatile, how is it that we many
" times find this warm *Serum* to be
" little better than insipid? Vola-
" tile Salts you know are aculea-
" ted, and affect the Palat strongly.
" May they not rather be of a sul-
" phureous nature, since it is the Na-
" ture of such Substances to sit upper-
" most on the Dissolution of Bodies?

Answer. I own it is one of the *genuine* and *constant Effects* of an *Alkaly* to cause an *Effervescency*, when mixt with Spirit of *Vitriol* or any other *Acid* Spirit; but whether this *Effervescency* be to be accounted a *Fermentation*, I greatly question: Tho *Alkalies* will excite *Fermentation* in fermentible *Liquors*, as is well known to many *Mechanicks*, and I fear too well by the *Brewers* about this City. As for what you mean by the *green Serum*, which you say will not *ferment* or *effervesce* with Spirit of *Vitriol*, I cannot tell: But sure I am, that if you put a little Spirit or *Oil* of *Vitriol* into a small Bottle, and upon that pour some *Serum* of *Blood* that will turn Syrup of *Violets green*, it will immediately become intensly *hot*, and a great many Bubbles will immediately rise, which looks very like a *Fermentation*, if it be not one:

there

therefore when you made this *Experiment*, upon which you are ſo confident, there muſt needs be ſome Error committed; for upon your urging this thing, the firſt Opportunity I had I made the *Experiment* afreſh, and it ſucceeded the very firſt time; and I doubt not, but if you will give your ſelf the trouble of making this *Experiment* again, it will not fail of ſucceeding.

As for thoſe warm *Particles* that you ſay are often *predominant* in the *Blood*, I muſt confeſs I don't underſtand what you mean by them; the *Blood*, whilſt we are in a ſtate of *Health*, is always *warm*, the reaſon of which I have before given you. If we have a *Fever* upon us, the *Blood* exceeds its natural *Temper*, according as the *Fever* is more or leſs *violent*: Now the Cauſe of this Exceſs of *Heat* in a *febrile* ſtate I take to be as follows; in moſt *Fevers*, e-

ſpecially in the beginning of them, there is a *Conſtipation* of ſome of the *Emunctories*; ſo that the *excrementitious Alkaly*, which ſhould be carried off by them, is detained in the *Blood*, which by breaking of its *Globules*, and dividing of the ſulphureous *Particles*, which are the *Pabulum* of the vital *Flame*, does either excite what we call a *Fermentation*, or rather by dividing the ſulphureous *Particles*, and ſubduing the *Acid* that held them together, does increaſe the *Flame* to an intenſe degree. An Inſtance of which we have in common *Fire*, as I have elſewhere taken notice of, and ſhall here again repeat, *viz.* let the *Matter* of which *Fire* is made be laid cloſe together, and then kindled, and it will conſume leiſurely and by degrees; whereas let it be laid at ſome little diſtances one from another, and it will conſume with a *rapid* and *intenſe Flame*. *Salt-Peter* alſo and

 Brim-

Brimſtone being mixt together, will burn with a gentle and eaſy *Flame*; but by adding a Proportion of *Charcoal-Duſt* (as is the *Method* in making *Gun-powder*) wherein is contain'd the fixt *Alkaly* of the *Wood*, the ſaid *Alkaly* by cauſing a Diviſion of the *Particles* of the *Nitre* and *Sulphur*, does ſo alter the Property of it, that inſtead of burning placidly and eaſily, the leaſt *Spark* of *Fire* falling into it, will cauſe an *Exploſion*, *viz.* make it take *Fire* all at once, and ſo be conſumed as 'twere in an inſtant. Are not the *Attacques* of ſome *Fevers* and other *acute Diſtempers* much like to this *Exploſion*, wherein *Nature* ſeems to be overthrown, and the whole *Courſe* of it put out of order almoſt in an inſtant? This is all at preſent I think neceſſary to take notice of in relation to the warm *Particles* you ſpeak of; and that *Acids* are the only *Medicines* to ſuppreſs this unnatural

Heat, I think I have already made appear. As for the *Inferences* you are pleaſed to draw from them, I think I have nothing more to do with them, but ſlightly to touch at them, they having already fallen under my Conſideration. And I have ſufficiently demonſtrated that *Alkalies* are the Cauſes of all *preternatural Heats* in our *Bodies*.

But ſuppoſing that *preternatural Heats* are occaſioned by the ſuperabundance of *Alkalies* in the *Blood*, you ſtill ſeem to be diſſatisfied about them alſo: For, ſay you, if they are fixt ones, how comes it to paſs that on the *Diſſolution* of the *Texture* of the *Blood*, they claim the higheſt *Place*, and nothing will ſerve their turn, but they muſt needs ſwim in the *Serum*? if *Volatile*, how is it that we often-times find this warm *Serum* little better than inſipid? *Volatile* Salts you know are aculeated, and affect the

the *Palat* ſtrongly. May they not rather be of a *ſulphureous Nature*, ſince 'tis the *Nature* of ſuch Subſtances to ſit uppermoſt on the Diſſolution of *Bodies*?

Firſt, I don't remember that I have any where ſaid that fixt *Alkalies* do claim the higheſt Place in the *Diſſolution* of *Bodies*, and that they ſwim uppermoſt in the *Liquors*, in which they are diſſolved: But this I believe you infer from my *Experiment* with the *Serum*, which is the lighteſt part of the *Blood*, and therefore is uppermoſt in the *Poringer*, after it hath ſtood ſome time, and that a Separation is made in the Parts thereof. Now I did not make uſe of the *Experiment* with the *Serum* and Syrup of *Violets*, thereby to intimate that *Serum* only was over impregnated with *Alkalious* Particles; but that being the moſt colourleſs part of the *Blood*, was therefore moſt proper for

ſuch an *Experiment*: For ſhould I have made ſuch an *Experiment* with the *fibrous* and *globulous Parts* of the *Blood*, which are combined together in one Maſs, they are ſo imbued with a ſcarlet *Dye*, that a ſmall quantity of it would tinge a great quantity of Solution of Syrup of *Violets* with the ſame *Colour*, altho at the ſame time it were greatly overcharged with *Alkalious* Particles. Therefore in my plain and eaſy way of *analizing* the *Blood*, I have made uſe of it altogether, as it came out of the *Veins*. But if a Man conſiders with what *Rapidity* the *Blood* moves along the *Veſſels*, it is impoſſible but all the Parts muſt be ſo mixt together, that if the *Serum* be overcharged with *Alkalious* Particles, the other parts muſt be ſo alſo; or if the other parts be overcharged, the *Serum* muſt be in like manner ſo. But however, as for fixt *Alkalies*, the *Blood* is very rarely

ly overcharged with them, the *Substances* we take in for our *Nouriſhment* affording very little of them after burning; and therefore *Nature* has provided but one *Emunctory* for the carrying them off, *viz.* the *Ductus Biliaris*, which empties it ſelf into the *Duodenum*, and is conveyed off along with the *Excrement* of our *Food* by *ſtool*: Whereas there are *Millions* of *Emunctories*, beſides that great *Diſcharge* that is made by *Urine*, to carry off the *Volatile Alkaly*. But if at any time the *Glands* of the *Liver* are obſtructed, that the fixt *Alkaly* cannot be ſeparated from the *Blood*, what fatal *Effects* does it produce?

I have ſcarce ever known a true *Aſcites* (which is that kind of *Dropſy* that is ſcarcely ever to be cured) which hath not had its *Origine* from an *Obſtruction* of thoſe *Veſſels* in the *Liver*, which ſeparate the *Bile* from the *Blood*. Nay frequently they have

a *Jaundice* upon them thro the whole *Courſe* of the *Diſtemper*. But if not ſo, I never yet knew an *Aſcites* that had not a *Jaundice* preceded it; and in what manner the whole *Oeconomy* of the *Body* is deſtroyed in this *Diſtemper*, is but too well known. But this is not the only *Diſtemper* that hath its *Origine* from the *Obſtruction* of theſe *Veſſels*, tho it be one of the moſt dangerous.

Secondly, As for what you ſay concerning the *Inſipidneſs* of the *Taſte* of the warm *Serum*, I ſuppoſe you mean that *Serum* which is overheated in *Fevers*, &c. the *Serum* being always *warm*, whilſt People are alive. I can aſſure you it is contrary to my long *Experience*; for of many Years, it has been my Cuſtom to taſte the *Serum* of the *Blood* not only in *Fevers*, but all other *Diſtempers*, where I have had occaſion to preſcribe *Blood-letting*; and in ſome *Fevers* I have found the

Vola-

Volatile Salt to bite my Tongue very ſeverely, but never once could find the *Serum* inſipid: and by this way of taſting I can better judg of the Condition of my *Patient* than from the *Colour* of the *Blood*. But in thoſe Caſes where the *Serum* is much *inviſcated*, as in moſt *Pleuriſies*, *Rheumatiſms*, and many *Fevers*, the *Volatile Alkaly* is ſo involved, that it doth not very ſtrongly affect the *Taſte*, tho it is never inſipid that I could ever yet find. As for *Volatile Salts* being aculeated, and affecting the *Palat* ſtrongly, I am very glad you take notice of it, ſince the general *Notion* that moſt people have of all *Alkalies* is, that they are of ſuch a ſweet, ſoft, mild *Nature*, that they carry a ſanative *Virtue* along with them wherever they go.

Thirdly, I own that *ſulphureous* Subſtances are wont to ſit uppermoſt in the *Diſſolution* of *Bodies*, and that the *Blood* is *impregnated* with ſuch *Subſtances*,

ſtances, I am far from denying; but they appear in all reſpects to be equally diſtributed through all its parts: but ſuppoſe they ſhould ſit uppermoſt here, and the *Serum* more impregnated with them than the *globulous* and *fibrous parts* of the *Blood*, *Sulphureous* Subſtances won't change Syrup of *Violets* from blue to green; and the *Serum* abounding with thoſe *Particles* that will do ſo, which are *Alkalies*, theſe *Alkalious Particles* by breaking and dividing the *Particles* of the *Sulphur* will increaſe and excite the *Flame*, I have before taken notice of, to a more intenſe degree: For the *Serum* would not be the more hot, ſuppoſing it did abound with ſulphureous Particles, unleſs the ſaid Particles were ſome way or other enkindled.

Letter. "But *thirdly*, if *Alkalies* are "the Original of all *Diſtempers*, "whence is it that in *Dropſies*, *Ca-*

"*tarrhs*,

" *tarrhs*, ſome *Gouts*, and other *Diſ-*
" *tempers*, we find the *Texture* of the
" *Blood* ſo thin ? 'Tis obſervable that
" thoſe *Particles* you term *Alkalies*, the
" more the *Blood* is ſaturated with
" them, the more thick conſiſtence
" it is of, as we ſee in *Pleuriſies*, *Rheu-*
" *matiſms*, and other *inflammatory Caſes*
" (in which *Diſtempers*, if in any,
" theſe *Alkalies* abound) is not then its
" *Tenuity* rather to be imputed to *Acids*?
" Do not *Acids* immediately put the
" *Blood* in a *Fuſion*, and render it thin ?

Anſw. In moſt inflammatory *Caſes*, where the *Blood* is immediately affected, there the *Serum* is *viſcous* and *fizy*, being overcharged with *Alkalious Particles*; but in thoſe *Caſes* you mention, and in ſome others, where the *Blood* is over thin, it is not the over Thinneſs of the *Blood* which is the only Cauſe of thoſe *Diſeaſes*, but a *Deſtruction* of the *Tone* of the *Parts*; and where the *Tone* of

of any *Part* is once ſpoiled, the great quantity of *excrementitious Matter* is ſoon thrown thence, and ſo the *Violence* of the *Malady* is increaſed: Beſides, in *Dropſies* the Quantity of *fluid* taken in, they being always thirſty, is ſo very diſproportionate to what is carried off, they always making Water but in very ſmall quantities in proportion to what they drink, that it's no marvel that their *Blood* is over thin. I have frequently in *Dropſies* known People drink *three Quarts* in a day, when they have not piſſed a *Pint*: And that *Acids* ſhould occaſion the *Thirſt* that attends *Hydropical* People, is ridiculous to imagine, when they are the only things in the World that will quench *Thirſt*. Beſides, do but conſider the *Nature* of the Medicines that are moſt effectual to bring the *Blood* to a Conſiſtence, when it is over thin. I have ſcarcely ever met with any thing equal to *Calibeats*

libeats, and that *Steel* is an *Acid* I have elſewhere endeavoured to prove: And as a farther *Proof* of it I ſhall produce the *Teſtimony* of *Beckerus* (no contemptible Man) in his *Minera Arenaria*, pag. the 88*th*. *Non recenſebo jam qualiter ille ſpiritus eſurinus in aquis ſubterraneis latitans, varia ſibi Salium, Aluminum, Vitriolorum, Sulphurum, Realgarium mineralium compoſitionum ſpecies producat; nec demonſtrabo, quâ ratione ſupra terram in Aeris regione tractus quidam hujus Acidi ſpiritus de uno Polo ad alterum, & perillum acus Magnetica feratur. Hoc tantum hic loci allegabo, omne Acidum ſubſtantiæ martialis eſſe, in quocunque oleo, pinguedine, fuligine, limo, ſilice & arena; imo etiam ipſa flamma reperibile, ac ad oculum demonſtrari poſſe: quæcunque ergo naturæ Acidæ & martialis ſunt, illa poteſtatem habent Alkali tanquam ſubſtantiam metallorum mercurialem alterandi & tranſmutandi.* Now if this *Thinneſs* of the *Blood* be to be taken off,

and

and the *Blood* brought to its due *Consistence* by the means of *Acids*, it is not unreasonable to suppose that *Acids* should be the cause of its fusion. But then I confess here lies a great *Difficulty*, *viz.* how is it possible for *Acids* to make the *Blood* thin, when 'tis too thick and viscous, and to bring it to a due consistence, when it is over fluid? To which I answer, That should I pretend to give an account what *Acids* taken in the proper Latitude would do, I should be guilty of the greatest Arrogance imaginable; for that would be to pretend to as much Knowledg as *Solomon* had, who knew the *Virtues* of *Plants* even from the *Cedar* of *Lebanon* to the *Hyssop* which grows upon the *Wall*. And *Divine Providence* had determined him to be the wisest of *Men* that had ever been before him, or that should come after him. All *Plants* from the greatest to the smallest are principally com-

compoſed of *Acido-ſulphureous* Particles; for what Compariſon is there to be made between the ſmall quantity of fixt *Alkaly* that is to be found in the *Aſhes* after burning, and of *Volatile Alkaly* in the *Soot*, in relation to the great quantity of *Acido-ſulphureous* matter that is ſpent in *Flame*? Or to come nearer to the matter, let a *Pound* of any *Vegetable*, which affords the greateſt quantity of fixt *Alkaly*, viz. *Broom*, or any ſuch *Plant*, be ſufficiently dried, ſo that the *ſuperfluous Humidity* may be evaporated; after that is done, let it be committed to *Diſtillation per ſe*, and it will afford between *two* and *three Ounces* of an *Acid Spirit*, with a good quantity of *Oil*, when all the *Art* of *Man* is not able to procure from the *Caput Mortuum* above *two Drams* of *fixt Alkaly*, and, as is before obſerved, *Broom* is one of thoſe *Plants* that affords the largeſt quantity of *fixt Al-*

kaly. Now the *Acid* Spirit and *Oil* are those *Substances*, which in burning serve to supply the *Flame*: and from the *Caput Mortuum*, unless it be afterwards burnt, there is no *fixt Alkaly* to be obtained. But here again to obviate the *Objection* before taken notice of, *viz*. that the *Fire* may produce new Substances, which were not existent in *Bodies* before, or that for instance, the fixt *Alkaly* to be produced out of the *Ashes* of the *Caput Mortuum* of the *Broom*, is only the *Product* of the *Fire*: If this were so, why then the *Ashes* after all the *Salt* has been once *extracted*, being again committed to a Violent *Fire* must produce more *Salt*; whereas on the contrary let it be *committed* to the *Fire* in the most violent *degree* of *heat*, and continued there for never so long a time, yet it will never after *afford* the *least* quantity of *Salt* of any kind. But that I may return to answer the form-

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er *Objection*, viz. how *Acids* are capable of making the *Blood thin* when *over viscous*, and also to reduce it to its *consistency* when it is *over thin*: All the *Bodies* in *Nature* are differently *specificated* by the *all-wise Author* of *Nature*, and at the same time are all *animated* by one *Universal Acid Spirit*, which is what the *Antients* were wont to call the *Soul* of the *World*, and I think not improperly. Now the more any *Bodies* are impregnated with this universal *Acid* Spirit, and its beloved *Sister Sulphur*, the more perfect they are; and *Gold*, which is one of the most perfect and durable *Bodies* in *Nature*, seems to be composed of nothing else but a pure *Acidum* and *Sulphur*, as I think has been sufficiently made appear by some of the most strict *Enquirers* into *Nature's Secrets*. Now the more perfect any *Bodies* are, the more *Acidum* and *Sulphur* they contain, and afford the least quantity of *Excre-*

ment, viz. *Alkaly*, that being the only *Destroyer* of all *Bodies*, and is what brings them to a ſtate of *Putrefaction* and *Corruption*. Well, but what's all this to the anſwering of the *Objection* twice ſtarted? Why it's only to make my way clear. But I ſhall now apply my ſelf to it. There are *two* general ſorts of *Acids*, *viz.* manifeſt, and inveloped ones: the manifeſt ones are ſuch as immediately appear to the *Taſte*; and theſe, altho originally the ſame, proceeding from the ſame univerſal *Fountain*, yet have different *Operations* upon *Human Bodies*. The inveloped ones are ſuch as do not immediately appear to the *Taſte*, but by taking of the *Bodies* aſunder appear to be ſuch. There is an *Axiom* that, *Unumquodque in id diſſolvitur unde compactum eſt*: Every thing is diſſolved into that whereof it is made. Now if this *Axiom* be true, as I think it is an infallible one, a Man may

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reasonably conclude that those *Bodies*, which upon their Dissolution are reduced into *Acid* Substances, are *Acids*, tho before their Dissolution they did not appear to be so. Most *Vegetables* upon the Dissolution of them, or analyzing by the *Fire*, appear principally to be composed of *Acid* Substances; and therefore I think are to be accounted *Acids*, altho they are so differently specificated, and have such different *Operations* upon *Human Bodies*, that a Man who has not nicely examined them, would be tempted to believe that the original constituent *Parts* of them were much more different than they are. Now the more perfect and durable any *Vegetable* is, the greater quantity of *Acidum* and *Sulphur* it affords, and less of excrementitious *Alkaly*. And from the different Combinations of the two Sisters *Acidum* and *Sulphur*, I believe it possible to give a very probable Ac-

count of all the differences in *Plants* as to *Colour*, *Taſte*, &c. And as theſe two *perfect* (if it be lawful to call any natural thing perfect) Principles are more or leſs clogged with excrementitious *Alkaly*, ſo they are more or leſs durable as to themſelves, and more or leſs friendly to *Human* Bodies, for whoſe uſe they were principally created; ſo that here you may ſee, that when I preach up *Acids*, it is not only *Vinegar*, *Lemons*, *Oil* of *Vitriol*, *Oil* of *Sulphur*, &c. that I recommend, but all the perfect Parts of the *Creation*, and decry the uſe of thoſe things that are the Principles of *Death* and *Deſtruction* in Bodies, viz. *Alkalies*. From what I have before ſaid I think I may without Preſumption, reckon *Oak-bark* amongſt the number of *Acids*; and yet *Oak-bark* being given in *Subſtance*, or a *Decoction* of it, is ſo far from making the *Juices* over fluid or thin, that it will reduce them to a

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Conſiſtence, when they are ſo: the ſame may be ſaid of *Biſtort*, *Tormentil*, and abundance of things of that *Tribe*: the ſame thing will *Comfry Roots* do, and all the things of that *Tribe*; the ſame I could ſay of many more, but here I have not room to expatiate. *Aſparagus*, *Parſley*, &c. will make the *Juices* fluid when they are over thick and *viſcous*, and ſo will a multitude of things more of that *Tribe*. I could range my ſelf out into the mineral *Kingdom*, but the different *Operations* of them are ſo well known to every body, that I think it needleſs to take any particular notice of them: yet this much I will preſume to ſay, altho it be foreign to my preſent Deſign, that after having made all the Enquiry into the *Nature* of *Metals* that *Human Induſtry* is capable of, I am perfectly ſatisfied that they differ one from another only in *degrees* of *Purity*; and there-

fore for ought I know the Business of *Transmutation* is not so ridiculous a thing as some People would make it. As to those *Acids* that are manifestly so, they greatly differ in their Operations upon *Human* Bodies. I have before observed that there are those which may properly be called *Acido-sulphurea*, and others *Sulphureo-Acida*; but in Nature I don't know a simple *Acid* or a simple *Sulphur*, there being such an indestructible *Bond* of *Union* and *Friendship* between them, that they are never one without the other. Now those *Acids* that have most *Sulphur* united with them are *Aperitives*, *Openers* of *Obstructions*, and keep the *Blood* and *Juices* in a proper state of *Fluidity*: Those that have little *Sulphur* mix'd with them are *Stipticks*, and bring the *Blood* and *Juices* to a Consistence, when they are over fluid. What I have said upon this *Subject* is not the effect of *Fancy*, but of a *Series* of several

ſeveral Years ſtrict and nice Obſervations.

Letter. "Beſides, if *Alkalies* did "always offend and cauſe *Pain*, it "muſt follow that *Acids* muſt give "eaſe: But I aſſure you I have often "experienced the contrary; for up- "on the exhibition of *Rhenish*, "*White-Wine*, and other *Acids*, I "have found the *Pains* immediately "exaſperated, and many times it "has been a long while e're they "went off.

Anſwer. If *Alkalies* cauſe *Pain*, I do agree with you, that *Acids* of conſequence muſt give eaſe; but I don't ſuppoſe that an ill habit of *Body*, that has been perhaps ſome *Months* or *Years* a contracting, is to be altered with a few *Doſes* of the moſt exalted *Medicine* in the World, let it be *Acid*, or what you pleaſe. But ſuppoſing *A-*

cids

cids to be the moſt proper *Medicines* in the World to eaſe *Pain*, as I believe they are; yet it is not improbable, but upon the giving a ſmall quantity of *Acid* in ſuch caſes where there is a large quantity of *Alkaly* lodged upon any *Part*, ſo as to cauſe *Pain*, it may only in part diſſolve the *Alkaly*, which was before more fixt, and ſo by accident may exaſperate the *Pain*; whereas by continuing the uſe of the *Acid*, the *Alkaly* would be perfectly diſſolved and extirpated, and ſo the *Pain* would altogether vaniſh: But *Pain* being ſometimes exaſperated upon the firſt giving of them in too ſmall quantities, has, I doubt not, been one great Cauſe of deterring people from proceeding in the uſe of them, and alſo of attributing to them the Cauſe of *Pain*: But in great *Pains* it is my conſtant *Practice* to apply *Acids* externally to the *Part* affected, as well as give them inward-

ly;

ly; and there are but very few *Pains*, especially *Gouty* and *Rheumatick* ones, that I am not able to overcome in a small time. And for the *Pain* you say you have often found to be excited upon the giving of *Rheniſh* and *White Wine*, I have aſſigned a Reaſon for that, if they are drunk in too large quantities, both in my *Eſſay* of *Alkaly* and *Acid*, and in my *Tract* of the *Gout*; and therefore ſhall not again repeat it, but refer you thither.

Letter. "Again, if the *Gout* proceed from an *Alkaly*, what is the "reaſon you uſe ſo much *Saſſafras* in "its Cure? Is *Saſſafras* an *Acid*, "and ſo proper to ſubdue this *Alkaly*?

Anſwer. I can cure the *Gout*, if there were no ſuch thing as *Saſſafras*; I only uſe *Saſſafras* in *Apozems*, as a proper *Vehicle* to dilute other *Medicines* in

in the *Stomach*. But however *Sassafras* is no contemptible *Medicine*; and if you will but give your self the trouble of *Distilling* a *Pound* or *two* of it in a *Retort per se*, if you afterwards reckon *Sassafras* amongst the number of *Alkalies*, I am mistaken; and if I am so, I shall willingly own it.

Letter. "I have only a word or "two to speak concerning the *green* "*Colour* of Syrup of *Violets*, and so I "have done. I believe it may be "turned *green* without an *Alkaly*: "On the exhibition of it to *Infants* "it comes away green very often, "and brings away a great deal of "*green Matter* by stool; and yet I "believe they do not abound with "*Alkalies*.

Answ. I own that upon the exhibition of *Syrup* of *Violets* to *Infants* it will frequently occasion *green Stools*: But from

from whence doth that proceed, but from its *Mixture* with the *Bile* in the *small Guts*? and that the *Bile* is an *Alkaly* I know not any one that doubts.

Letter. "You may read in a late "*Author* of undoubted *Credit*, that "upon an *Infant's* ſwallowing of a "*Doſe* of *Teſtaceous Pouder*, an extra-"ordinary *Ferment* was raiſed in the "*Stomach* of the *Child*: Now how "could this *Ferment* be raiſed, if it "had not an *Acid* to work upon? "Beſides, does not *Experience* ſhew "that nothing is ſo proper in *Infants* "*Diſtempers* as *Alkalies*?

Anſwer. The *Author* you ſpeak of is my ſingular good *Friend*, and a Man for whom I have a very great *Value* and *Eſteem*; and as to the *Truth* of the *Relation* you mention, I can readily aſſent to it: But if you have read the *Appendix* to my *Eſſay* of *Alka-*

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ly and *Acid*, you cannot but remember, that I there acknowledg that *Acids* may ſometimes abound in the *Stomach*, and cauſe a *Diſorder*, but in no other part of the *Body*; which thing I have ſo fully handled in that place, that ſhould I recite what I have there ſaid upon this *Subject*, my Enemies would accuſe me of *Tautology*, and therefore thither I ſhall refer you: and if what I have there ſaid be not ſatisfactory to you, I ſhall endeavour to give you what further Satisfaction I am able. As for the *Cure* of *Infants Diſeaſes*, I don't ſee but that they require the ſame *Methods* to be taken with them, as with grown *People*, only the *Medicines* given them muſt be more mild and gentle, and in leſs quantities, conſidering the wonderful *Tenderneſs* of their *Natures*.

Letter. "I have ſome more things "to offer; but I deſire you would "be

" be pleaſed to ſatisfy me as to theſe. " I ſhould be glad to cloſe with your " Opinion, and embrace any thing " that is new; for I believe *Medicine*, " tho it has met with great *Improve-* " *ments* of late, to be capable of far " greater. I'll give you no farther " trouble, only after thanks to you " for your indefatigable *Labour* in " ſearching out the Truth of things, " ſubſcribe

Your humble Servant,

F. T

Anſwer. I have endeavoured to give you what ſatisfaction I am able as to the *Objections* you have already raiſed, and ſhall think no labour too much to anſwer any farther *Objections* you have to offer. I don't deſire of you, or any elſe, to take up with any thing that comes from me, without examin-

examining it in the *Balances* of Reaſon and Experience; and if after ſuch *Examination* you find what I have advanced to be Truth, I don't doubt but to find you a zealous *Champion* in my *Cauſe*: But if otherwiſe, I beg of you that you will convince me of my Errors, and I ſhall be very ready to write a *Recantation*. As for the *Improvements* that have been made of late, they have principally belonged to *Anatomy*, and indeed they have been very conſiderable; and of all the *Phyſicians* of *Europe*, thoſe of our own *Nation* have had the greateſt hand in them. But as for the *Improvements* in the practical Part of *Phyſick* (ſetting aſide the *Diſcovery* of the uſe of the *Peruvian Bark* in the Cure of *Agues*) they are very inconſiderable: The moſt that has been done of that kind, was done by the *indefatigably Induſtrious* Dr. *Sydenham*, and I heartily wiſh that we had more Dr. *Sydenhams* at this day.

Sir,

Sir, there are abundance of *Imperfections* that you will meet with; but if you did but know the great hurry I have been in, and how little time I have had to sit composedly in my Study, you would readily pardon a great many of them: But this I can assure you, that had I not had an earnest desire to serve you with some other such *Candid, Ingenuous Persons* as your self, I would not have deprived my self of so many Hours Sleep (having little other time to command) as I have been forced to do, to put things in that Order they are: At present I have nothing more to add, but that I am

Yours to Command,

JOHN COLBATCH.

The CASE of
EDMUND TURNER *Esq.*

ON *Monday Night* about *twelve* a *Clock*, being *August* the *thirtieth*, *Madam Turner* came to my House, and told me that Mr. *Turner* was very ill at my Lord *Wharton's* at *Winchington*, and withal desired me, that I would immediately get my self ready, and go down to him to take care of him, which accordingly I did, and got to *Winchington* the next day by one a *Clock*. When I came there, I found Dr. *Fry* of *Oxford* had been there some time, and was then at *Dinner*; so I went up to Mr. *Turner* to inform my self as nicely as possibly I could of his *Case*; after I had done which, I came

down to *Dinner*, and as ſoon as *Dinner* was over, I deſired the Doctor that we might conſult together what was proper to be done for the diſtreſſed *Gentleman*. But before I take notice of what paſſed between the Doctor and my ſelf, I ſhall exactly relate the *Caſe*, with the *Occaſion* of his *Illneſs*.

On the *Saturday Night* before, Mr. *Turner*, with two other *Gentlemen* ſate down to drink, and continued at it till *ſeven* or *eight* next *Morning*, but I cannot learn that the *Quantities* they drank were extraordinary: At which time they all went to bed, the other *two Gentlemen* lay in *Bed* the whole day, and eat nothing but *Water-Grewel*; but Mr. *Turner* got up in the *Afternoon*, and eat boiled *Mutton*, with a great deal of *ſtrong Broth* with *Muſhrooms* in it, and drank plentifully both of *Wine* and prodigious *ſtrong Beer*, and then went to bed again, and preſently fell aſleep; but early next

Morning he awaked in the moſt dreadful condition imaginable. When I came to him his *Circumſtances* were as follow.

He had a violent *Pleuriſy*, and *Peripneumony* upon him, as was plainly to be perceived by a moſt ſharp *Pain* in his *left ſide*, which he greatly complained of, and a prodigious *Shortneſs* of *Breath*. He alſo complained of a wonderful *Nauſea* and *Sickneſs* at his *Stomach*, and had a *Fever* upon him to the moſt intenſe degree, with a great *Stupor* and *Dulneſs* in his *Head*.

Dr. *Fry* had ſome Hours before I came ſent a *Preſcription* to Mr. *Williams* an *Apothecary* at *Ailesbury*, of which I have here inſerted an exact *Copy*.

For Mr. *Turner*, *Auguſt* 31. 1697.

℞ *Ol. ſem. Lin. rec.* (*ſine igne*) *extract. lib. ſemis.*

Sig. The Oil.

†

℞ *Syr. Balſam. Tolut. Unc. quatuor.*

Sig. the Balſamick Syrup.

℞ *Antimonii Diaphoret.*
Corallii Rub. pp
Margarit. pp *ana Dracm. duas.*
M. f. pul. in Chart. 12 equal. reponend.

Sig. the Pearl Pouders.

℞ *Aq. Hiſſopi.*
Cichorei ana, unc. ſex
Limacum Mag.
Lumbricor. Mag. ana Unc. unam
ſem.
Cinnamom. Hord. Unc. unam
Syr. Capillor. Ven.
Violar. ana Dracm. ſex
M. f. Julap.

Sig. the Julap.

℞ *Emp. de Cicut. cum Ammon. Unc. duas.*

℞ *Sem. Cumin. pul. Unc. ſemis.*

Dr. Fry.

He had alſo about an hour before I came taken away about *ſeven Ounces* of *Blood*, the ſame quantity having been taken away (as I am informed) the Day before by the Order of Dr. *Wilſon* a *Phyſician* of the *Neighbourhood*. I told Dr. *Fry* that I could not in conſcience agree to the uſe of the *Medicines* he preſcribed. The *Nauſea* at his *Stomach* was ſo great, that I feared the *Linſeed Oil* would increaſe it to ſuch a degree, that it would be of ill conſequence; and for the *teſtaceous Powders*, &c. they would excite the *Hurry* and *Diſorder* in his *Blood* to a greater degree, and increaſe the *Inflammation* of his *Lungs*, and I fear'd inevitably ruin him. He askt me what *Method* I would propoſe? To which I replied, that in my *Opinion* according to the laudable *Cuſtom* of the *Great* Dr. *Cole*, he ought to loſe at leaſt *twenty Ounces* of *Blood* more, which would empty the *Veſſels*, and make room

for

for the *Blood* to circulate through the *Lungs*: That at due Intervals he ſhould take a moderate quantity of *Tartarum Vitriolatum* and *Cremor Tartari* in a *Spoonful* of *Syrup* of *Vinegar*, drinking afterwards a large *Draught* of *Pectoral Decoction*, which would take off the *Nauſea* at his *Stomach*, and promote *Expectoration*, and perhaps gently carry off the undigeſted *Matter*, which lay in his *Stomach* by *Stool*: That he ſhould be allowed moderately cooling *Liquors* as oft as he deſired them, in every *Draught* of which he might take about *ten Drops* of *dulcified Spirit* of *Nitre*, which might help to take off the *Inflammation* of his *Lungs*, and calm his *Blood*: That he ſhould take a *Spoonful* of a *Mixture* of *Pectoral* Syrups often, in which was contained a convenient quantity of *Oximel* of *Squills*, which is a great *Promoter* of *Expectoration*. To take off the *Stupor* and *Dulneſs* in his *Head*, I propoſed a

Cataplaſm of *Muſtard*, *Horſe-Raddiſh Roots*, *Rhue*, and *Caſtor*, to be applied to the *Bottoms* of his *Feet*.

To none of theſe things would the *Doctor* comply, neither could I comply with his Methods; ſo after many long Debates, we at laſt agreed to go up ſeparately to Mr. *Turner*, and acquaint him, that we could not agree, and that he muſt diſcharge one of us. Dr. *Fry* went up firſt, and when he came down I went up; but for fear that things might be miſrepreſented, I would not go up unleſs Mr. *Wats* (a Man eminently known in this City) would go with me to hear what I ſaid. Mr. *Wats* at firſt was unwilling, but at laſt conſented. When I came up to Mr. *Turner*, I told him Dr. *Fry* and my ſelf could not agree, and therefore one of us muſt be diſcharged; I likewiſe told him that I had ſufficient reaſon to believe that the *Method* I had propoſed for him might

might retrieve him, but that Dr. *Fry* was more positive as to the success of his than I would be of any *Method* I could use in a much less dangerous Case than his was, and therefore I thought it was his most prudent Method to continue him: To which he made me no other Answer, but desired me to go down again, and see if we could not find a *Method* of *Reconciliation*, or Words to that purpose: Upon which I went down, and told the Doctor what he said: After a farther Debate without any compliance on either side, we agreed at last to get Mr. *Wats* to go up and know who must be discharged: when Mr. *VVats* came down, he brought us word that Mr. *Turner* desired to speak with us both together; accordingly we went up, and when he saw us, he desired we would not stand upon any little *Punctilios*, and begged of us that we would give him a Vomit, for

for that after any *Surfeit* he was wont to take a *Vomit*, which always reliev'd him. I readily consented to give him a *Vomit*, and proposed *Oximel* of *Squills* with large quantities of *Posset-Drink* (as Mr. *Wats* may well remember) and if that did not work, to excite it with Salt of *Vitriol*: But to this neither would Dr. *Fry* agree, but closely urged the use of the *Medicines* he had prescribed, upon which Mr. *Turner* assented to take them. I staid all that *Afternoon* and the *Night* following, but had no hand in any thing that was done. I went up with Dr. *Fry* about *six* a *Clock* to see how he did, and at that time his *Pulse* seemed to be somewhat mended, it having been extreamly bad before. About ten (just before I went to bed) I went up again with the Doctor to see how he was, but then I found a most lamentable *Pulse*, there being nothing but a little trembling *Motion* to be felt; upon which

which I desired the Doctor to walk out of the *Room* a little, when I told him that things lookt very ill, for that his *Fever* was extreamly high, his *Breath* very short, and his *Pulse* as is before related, and that if he did not mend that *Pulse* he would drop his *Patient*; his answer was, that all was well enough: upon which I had nothing more to say, he not being my *Patient*. Next *Morning* about *seven* a *Clock* I went again to see him, and found him much after the same manner he had been the *Night* before, but the Doctor told me he hoped all would be well; so I went to *Breakfast*, and whilst I was at *Breakfast*, I told one of my Lord *Wharton*'s Servants (to the best of my remembrance it was the *Butler*) what my Apprehensions of Mr. *Turner* were, and that I did not see any hopes of his *Recovery*: But Mr. *Turner* being solely under Dr. *Fry*'s Care, I did not think fit to

stay

ſtay any longer to neglect my *Patients* in *London*, and do him no other Service than to go up now and then, and look at him: ſo away I came without taking my leave of him; but before I went, I wiſhed the forementioned *Servant*, if Mr. *Turner* ſhould enquire after me, and know I was gone, that he would acquaint him that I was unwilling to take my leave for fear of diſturbing him. Of all that paſſed between the *Servant* and me, Mr. *Turner*'s own *Son* was a *Witneſs*, and was much concerned that his *Father* was not under my Care. As I was coming home, about *ſix Miles* on this ſide *Ailesbury* I met Col. *Cornwel* going to ſee Mr. *Turner*, who ſent his Man to me to enquire how he was; I made anſwer, that I hoped he was ſomewhat better, fearing that if I had told him my real Sentiments he would have preſſed me to have gone back with him; and as things

ſtood

ſtood I did not care to return. By that time I had come about ſix Miles farther, I met Madam *Turner*, to whom when ſhe askt me how Mr. *Turner* did, upon the ſame conſiderations I made the ſame reply I had done to Col. *Cornwel*. After I was gone Dr. *Fry* preſcribed more *Linſeed Oil*, and a *Pearl Cordial*.

About eight a *Clock* at *Night*, being *Wedneſday*, I came home, and after I had made two or three *Viſits*, and eat my *Supper*, I went to bed; I had not been in *Bed* half an *Hour*, but Col. *Cornwel's Man* knockt at the Door, and deſired to ſpeak with me; When he came to me, he told me Mr. *Turner* was much worſe than when I left him, that Dr. *Fry* was diſcharged, and he begged me that I would come down again to him; for that he would take nothing more from any one, but what I ſhould direct. Upon which I got a *Calaſh* and *four Horſes*

as

as ſoon as poſſibly I could, and went down again. I got to *Winchington* on *Thurſday* about *twelve* a Clock, and when I came there, I found the poor *Gentleman* in the moſt profuſe *Sweat* imaginable, his *Breath* ſhort to the laſt degree, and almoſt no *Pulſe* at all: But the Pain in his *Side* was gone, which his *Lady* (who was then with him) and thoſe about him took for a good *Sign*: But I told them that his Shortneſs of *Breath* continuing, and his *Pulſe* being ſo very low, it was rather a bad one, and that he was in a moſt deplorable condition; and I appeal to every one of my *Lord Wharton*'s Family, who askt me how he did, whether I once gave them the leaſt Encouragement to believe that he would recover. His *Shirt* that he had upon him was as wet as if it had been dipt in a *River*, and as cold as *Ice*, and ſo were both the *Sheets*; therefore the firſt thing I did

was

was to free him from this cold wet *Linen*; in order to which I got as large a *Fire* made in the next *Room* as the *Chimney* would bear; I then ſet a *Shirt* and a pair of *Sheets* that had been before uſed, to be well aired and heated: in the mean time his Lady and her Maid with hot Napkins rubbed him, and made him as dry as they could; after which with all the Caution imaginable, we put on a hot dry *Shirt*, and took away the cold wet Sheets, and put thoſe that we had well heated and aired in their room. This matter juſt as I have related it I can have ſufficiently atteſted, altho it be poſitively ſaid about the *Town*, that I took him out of the *Sweat*, and put him on clean *Linen*, without airing it at the *Fire* at all. He being prodigiouſly thirſty, begged of me that I would give him ſomething that might allay it; upon which I ordered them to make him

a Mixture of *four Parts ſmall Beer, one Part White-wine*, ſome *Juice* of *Lemons* to make it grateful, and to ſweeten it with *Loaf-ſugar*; and he being a great Lover of *Nutmeg*, deſired that a little of it might be grated into it, which, conſidering the *Stupidneſs* in his *Head*, I agreed to. Of this *Liquor* I allowed him to drink as plentifully as he pleaſed; conſidering the *Profuſeneſs* of the *Sweats* he had had, I durſt not then venture to *bleed* him, altho his *Fever* was as violent as ever. But to the *Apothecaries* I preſcribed as follows.

For Mr. *Turner Sept.* 2*d*, 1697.

℞ *Oximel ſimp. Unc. quatuor*
Aq. Lactis Unc. ſex
Cinnamomi fort. Dracm. ſex
M. f. Mixtura, cap. Cochleare unum frequenter.

℞

℞ *Oximel. ſquillit. Unc. duas*
Sig. Oximel of Squills.

℞ *Crem. Tart. Unc. ſem.*
Tart. Vitriolat. Dracm. unam
Sach. Alb. unc. ſem.
M. f. pul. in ſex Chart. diſtribuend. ex quibus cap. unam tertiâ quâque horâ in Cochlear. Syr. Aceti ſuperbibendo hauſt. Apozematis ſequentis.

℞ *Fol. Hederæ terreſt.*
Flor. Hypericon, ana M. unum
Rad. Altheæ unc. duas
Balſ. tolutani Dracm. unam
Aq. Font. lib. tres
bulliantur ad tertiæ partis conſumption. & coletur, colaturæ adde
Oximel. ſimp. unc. duas
ſp. Nitri dul. gut 30. M.

℞ *Sp. Nitri dul. Dracm. duas*
Sig. dulcified Spirit of *Nitre.*

I afterwards ſent a ſecond Preſcription, which was as follows.

℞ *Sem. Pſillii*
Cydoniorum ana unc. ſem.
ponantur in Chart. ſeparatim.

℞ *Electuarii Lenitivi unc. duas*
Crem. Tart. unc. ſem. M. f.
Elect.

This laſt *Electuary* was for Mr. *Turner's* Man, who had ſate up ſeveral *Nights*, and complained of a great inward *Heat* and *Coſtiveneſs*; but however, becauſe it was inſerted in a *Bill* with Mr. *Turner's* Name to it, I thought it convenient to take notice of it; tho it is no Poiſon, and if Mr. *Turner* had taken it himſelf, it would not have murdered him.

The forementioned things with *Directions* were taken as directed; and as to thoſe, for the uſe of which

 there

there was no Direction given, I ſhall here give an account how they were taken.

Once in about two *Hours* I mixt half a *Spoonful* of the *Oximel* of *Squils* in a ſmall quantity of the *Apozem*, and gave it him. Of the dulcified Spirit of *Nitre* I gave him ten Drops in almoſt every Draught of *Liquor* he drank. As for the *Flea Bean* and *Quince ſeeds*, I had one half of them boil'd in *two Quarts* of *Water* to the *Conſumption* of one half; and of this *mulaginous* Decoction I now and then gave him a good Draught, it being a great *Promoter* of *Expectoration*. In the *Houſe* I got made up a *Lambative* of fine *ſalad Oil* and Syrup of *Vinegar*, and of this I ſometimes gave him a *Spoonful*. But all I could do availed nothing; I could by no artifice make him expectorate in any quantity, only ſometimes he would diſcharge a green *putrid Matter*. He continued

to be ſhort breathed to extremity, his *Fever* no whit abated, his *Pulſe* low and irregular, and ſometimes would totally intermit for two or three ſeconds, with a *Stupidneſs* in his *Head*.

About nine a *Clock* he again broke out into a moſt profuſe *Sweat*, which I did by no means like, at which time I laid me down upon a *Field Bed* that was in the *Room* to ſleep, chooſing rather to lie ſo than go to bed, that I might be the more ready to be called upon occaſion; but having travelled near *ſixſcore Miles* in *three days*, and been *two Nights* upon the *Road*, I was very ſleepy. About *eleven* a *Clock* my Lord *VVharton* called Madam *Turner* into the next *Room* to conſult about ſending for Dr. *Babo*; ſhe left his Man ſitting upon the *Bed* by him, I being faſt aſleep upon the *Field Bed*. Whilſt Madam *Turner* was in the next *Room* with my Lord *VVharton*, Mr. *Turner* in the midſt of this profuſe

Sweat leaps out of the *Bed*, and walkt round it to the *Close-stool* without any thing but his *Shirt* upon him: Madam *Turner* hearing some body walk in the *Room* barefoot, run in to see what was the matter, and found him in this posture; she was immediately followed by my Lord *Wharton* and some others: as soon as Madam *Turner* came in I awaked, and got up to help her to get him into the *Bed*. When he was put into *Bed* he laid himself into a Posture, out of which he never moved till he died, which was within a very few *Hours*. Whether this last getting out of the *Bed* was a shortning of his *Life*, I cannot be positive, but it is very probable it might. It is to be observed that the *Night* before about eleven a *Clock*, he was in such extreme *Agonies*, that every body thought he would have died then, at which time his *Nails* turned *bluish*; but upon his

recovering himſelf (which I believe was principally occaſioned by the *ſight* of his *Lady*, who juſt then came into him) his *Nails* never recovered their *Colour*, but continued bluiſh till he died. Now the *Nails* not returning to their *Colour* was as fatal a *Symptom* as could be.

I am ſorry I have been forced to rake up the *Aſhes* of the *Dead*; but I having ſo often been charged with no leſs than the *Murder* of this *Gentleman*, I have been forced to write the *Caſe* in my own *vindication*. I am ſure it was as much my Intereſt to preſerve Mr. *Turner* as any one Man in *England*, there not being one to whom I am more obliged than I was to him, he having done me a great many ſingular pieces of *Service*; and I am ſure I would have gone as far, and done as much to have ſaved his *Life*, as any Man could have done for his Friend.

Before I conclude upon this *Subject*

I ſhall preſume to take notice of a thing, which happened, which was a kind of *Preludium* to his *Death*; and for ought I know the Thoughts of it might deject his *Spirits*, and have a fatal *Influence* upon him.

About *April* laſt Mr. *Gadbury* came to him, and told him, Mr. *Turner*, you will die in the *Countrey* this *Summer*, of a *Surfeit* of *Drinking*. He received it with a *Smile*, and ſaid, I die with *Drinking*, who am the ſobereſt *Man* in *England*? that's impoſſible. In *May* he went to the *Bath*, but before he went there, he made his *Will*, and was obſerved to be more melancholy than uſual. He came back from the *Bath* very well, and told ſome of his Friends that Mr. *Gadbury* was deceived: Some time after he went to *Winchington*, and juſt as he was going, one of his *Friends* bid him remember what Mr. *Gadbury* had ſaid, and beware of drinking: he ſaid he

would. As ſoon as he was taken ill (I ſuppoſe remembring Mr. *Gadbury's* Words) he told his Son that he ſhould not recover.

CASE II.

July the *eleventh* I was ſent for to Mr. *Davis*, a *Gentleman* of a very conſiderable Eſtate near *Lynn* in *Norfolk*, who then lodged at *Chelſey*. He had a little before had the *Small Pox*, and after that a *malignant Fever*, having been under the care of another *Phyſician*, who had treated him after the common Method with *Alkalies* and *Alexipharmicks*; but his *Caſe* was now ſo deplorable, that his *Friends* deſpaired of his *Recovery*, ſo the former *Phyſician* was diſcharged, and I was ſent for; when I came to him,

I found his *Case* as follows. He had a violent *Peripneumony* or *Inflammation* of his *Lungs*, his *Breath* being constantly very short; but at some times he was so extraordinary short-breathed, that his Friends were afraid he would be strangled. He had a *Fever* upon him to a most intense degree, a great *Stupor* and *Dulness* in his *Head*, a *Nausea* at his *Stomach*, and his *Pulse* very low and irregular, with a great *Depression* and *Lowness* of his *Spirits*. I prescribed for him to Mr. *Baxter* an *Apothecary* in St. *Martins-lane* as follows.

For Esq; *Davis*, *July* the 11*th* 97.

℞ *Cremor. Tartari Dracm. tres*
Salis Prunellæ Dracm. duas
Ol. Cinnamomi gut. duas
Cons. Cynosbati Un. unam
Syr. e Rubro Idæo q. s. f. elect. cap. quant. Nucis Moscatæ largæ tertiâ quâ-

quâque horâ ſuperbibendo hauſt. parvum Julap. ſequentis.

℞ *Aq. Cinnamoni Hord.*
Lactis Alex. ana Unc. ſex
Vini rub. Gal. un. quatuor
Syr. e rubro idæo Unc. tres
Ol. ſulphur. per camp. gut. xx
M. f. Julap.

℞ *Syrup. Aceti Unc. tres*
de Roſis ſic. Unc. unam
M. f. Mixtura, cap. Cochleare unum in omni difficultate reſpirationis.

℞ *Aq. Cinnamomi Hord. Unc. quatuor*
Mirabilis Unc. unam ſemis
Syr. Garrioph. Unc. ſemis
Conf. Alkermes Scrup. duos
M. f. Card. cap. cochlearia quatuor vel quinque quando ſpiritus languent.

Beſides

Beſides the foremeneioned things, I ordered him to eat *Lemon* and *Sugar* very often, and to drink *Lemonade* in as plentiful quantities as he pleaſed.

The next day I viſited him again, and found him much after the ſame manner he was the day before, only his difficulty of breathing ſeemed to be ſomewhat abated; the *VVater* he made in the *Night* was of a perfect *Lead Colour*, and his *Pulſe* was very low and irregular, and would ſometimes totally intermit. The *Blackneſs* of his *VVater* and *Irregularity* of his *Pulſe* made me very doubtful of his *Recovery*. I then preſcribed the following *Medicines*.

℞ *Conſ. Flor. Calendulæ*
Lujulæ, ana Dracm. ſex
Conſ. Alkermes Dracm. unam
Ol. Cinnamomi gut. tres
Ol. Sulphur. per Campan. gut. xv
Syr. Lujulæ q. ſ. f. elect.

cap.

cap. quant. Nucis Moſcatæ largæ quartâ quâque horâ ſuperbibendo hauſt. Julap. ſeq.

℞ *Aq. Lactis Alex.*
Cinnam. Hord. ana Unc. decem
Theriacalis Unc. duas
Syr. Lujulæ Unc. tres
Ol. ſulp. per Camp. gut xv
M. f. Julap.

℞ *Aq. Cinnamomi Hord. Unc. ſex*
Mirabilis
Epidem. ana Unc. unam
Syr. Garrioph. Dracm. ſex
M. f. Cardiacum, cap. Cochlearia ſex in languoribus.

The *thirteenth* I viſited him again, his *Pulſe* continued low and irregular, his *Urine* very black, his *Fever* nothing abated, but he began to expectorate a little, at which I was well pleaſed. In the Night he was taken with a *Looſeneſs*, which conſidering his long *Illneſs* before, he was not well able to bear. I preſcribed as follows.

℞

Aq. Cinnamomi Hord.
Germ. querc. ana Unc. quatuor
Epidem Unc. tres
Mirabilis Unc. unam
Theriacalis Dracm. ſex
Conf. de Hyacyn. Drac. unam ſem.
Syr. Garrioph. Dracm. ſex
M. f. Julap. Cap. Cochlearia quatuor vel quinque frequenter.

℞ *Lupulor. man. unum*
Paſſular Corinth.
Salis Marini, ana Unc. quatuor
Aceti Acer. q. ſ. ff. Cataplaſma Carpis applicand.

℞ *Rad. Petaſitidis Unc. tres*
Angelicæ Hiſpan. Unc. ſem.
Fol. Rutæ pug. duos
Aq. Font. lib. duas
Aceti Acerrimi Unc. ſex
Infunde clauſè & calidè in Vaſe terreo vitreato per horas quatuor, & coletur, cap. Unc. quatuor quartâ quâq; horâ.

The *fourteenth* I viſited him again; his

his *Looſneſs* was quite ſtopped, he ſpit prodigiouſly, upon which his Shortneſs of *Breath* was almoſt totally gone; his *Fever* was greatly abated, and his *Pulſe* extreamly mended, and his *Urine* of a good *Colour*, and well digeſted. I preſcribed as follows, and alſo ordered him to take liberally of his *Mixture* with *Syrup* of *Vinegar* to promote his Spitting.

℞ *Aq. Lactis Alex.*
Cinnamomi Hord. ana Unc. decem
Vini Rubri Unc. ſex
Syr. Lujulæ Unc. tres
Ol. Sulphuris gut. xvi
M. f. Julap. cap. hauſt. larg. ad libitum.

The *fifteenth*, *ſixteenth* and *ſeventeenth* he continued to take the forementioned things, during which time he ſpit like one in a *Salivation*; but he continued very weak, and having ſomething of his *Fever* lurking within him, the *eighteenth* I preſcribed the following *Medicines*. ℞

℞ *Conſ. Calendulæ*
Lujulæ ana Unc. ſemis
Conſ. de Hyacyntho Dracm. duas
Crem. Tart. Dracm. tres
Ol. Cinnamomi gut. duas
Ol. ſulp. per Camp. gut. xv
Syr. Lujulæ q. ſ. f. elect.
Cap. quant. Nucis Caſtan. tertiâ quâq; horâ ſuperbibendo hauſt. Apozematis ſequentis.

℞ *Rad. Eringii Unc. duas*
Aq. Hordei lib. tres
bulliatur ad tertiæ partis conſumptionem, & coletur, colaturæ lib. unam ſem. adde
Aq. Cinnamomi Hord.
Vini Rubri ana Unc. quatuor
Syr. Lujulæ Unc. tres
Ol. Sulphur per Camp. gut xx. *M.*

℞ *Ol. Vitriol. dul. per digeſt. fact. Dracm. duas cap. gut. octo in omni hauſt. potus.*

He continued the uſe of theſe things, and in a week's time his *Fever* was perfect-

fectly gone, he recovered Strength, and was perfectly free from his Shortneſs of *Breath*, and all the other *Symptoms* that he complained of. I then preſcribed the following *Purge*, which was repeated two or three times at due diſtances, and he is now as *hale* and *hearty a Man* as any in *England*.

℞ *Rerinæ Julap. gr. decem*
Antimonii Diaphoret. gr. xii
Crem. Tart. ſcrup. unum
Syr. Balſ. q. ſ. f. bolus
cap. primò manè cum regimine.

FINIS.

Advertiſement.

JUſt as the laſt Sheet was going to the Preſs, I met with a Book call'd *Alkali vindicatum*, written by Dr. *Coward*, being *Reflections* on ſeveral things in the firſt part of my Eſſay of *Alkaly* and *Acid*. How far he has overthrown my *Hypotheſis* I leave to all impartial *Judges*. For my part I don't think the *Book* worth a Reply: He has taken a great deal of Pains to ſhew his *Learning* and *Gentleman-like Education* in his *ſcurrilous Reflections* upon me; but conſidering the ſervice his *Book* will do me, I think I have no reaſon to be angry with him.